

MASSACHUSETTS PLOUGHMAN



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Agricultural.

Care of Breeding Stock.

We have many times pointed out the fact that we do not consider the condition in which many think it necessary to put their animals for the show ring or for exhibition at the fairs is a good preparation for making prolific breeders of good, vigorous stock. We have even advised people to avoid the prize winners in such show animals, as likely to prove barren, or to get only feeble, slow-maturing and inferior young.

But there is a vast difference between the condition of these animals and the breeding stock in the hands of the average good farmer. We do not think many of them ever upon the side of keeping breeding stock too fat, unless it is some choice animal that they bought fat and are trying to keep looking as well as when brought home.

There is danger in going to the other extreme and not keeping them sufficiently well nourished to give them vitality and energy enough to produce strong and thrifty young. We have seen such cases more than once or twice, but more often in the female than the male. The cow that during the period which she is expected to go dry before she drops her calf gets only rough fodder, and that often of the poorest, that is exposed to cold storms, or is kept in a cold barn in winter, is apt to be losing flesh all of that time, and she will have but a poor, lean and weak calf, though she goes dry six months, instead of three. She will not have strength to go through with it well, and possibly may retain the placenta until she is seriously ill, and has made the calf so. She will require careful feeding and nursing to bring her to a full flow of milk, and often cannot be brought at all, even when turned to good pasture, to anything like the amount she should have given.

We want a cow to have grain every day up to her time of calving, not heating, constipating grain, like cornmeal, cottonseed or linseed meals, but a quart or two of wheat bran or oat meal, which with good clover or early-cut fine hay will keep up the flesh and strength and keep the bowels in good condition. They also are the foods containing the protein or flesh and muscle forming elements, and they are not injured by the addition of roots or ensilage in proper proportion.

But with proper feeding should also go care in regard to exercise, and this may be said to be more needed by the strong, vigorous male than by the female, and we care not what the stock may be, horse, cattle, sheep, swine or poultry, the male should have frequent and regular exercise, without his being overworked. Yet the contrary is the more general rule. The male is confined to the small pen or stall, and but few take him out for exercise. His muscles grow soft, and they lack vitality, and thus also lacks in that prepotency, or power to reproduce the character of his ancestry, or those good qualities for which we value the pure-bred animal, and which we had a right to expect.

The reason for a fact that farmers have often noticed and commented upon, that a calf is larger, stronger and grows more rapidly than one dropped in the spring, is that the cow is better fed, for the grass is almost a perfectly balanced ration, if the pasture is not too rich or too highly manured, and another is that in the fall pasture gets the exercise in the open air that strengthens her and her coming young. If this is true of cows it is also true of other animals.

While the animals are young and growing, there is but little fear of their getting too fat, the food is such as we have named above, even when they are fed liberally. By proper care and feed we can cause the animals to mature more rapidly, and reach a proper age for breeding much earlier than they would under the old methods of wintering at the straw stack, or on the poorest fodder in the barn, and a small allowance at that. But do not start by breeding too young, or requiring too much service before they are fully matured. We have seen a Jersey heifer less than a year old with a calf by her side, and the reputed sire of the calf was of about the same age. We thought that was about one year too early for either the male or female. Yet we would prefer to have a heifer come fresh when two years old rather than a three, if she had been properly cared for.

We did not like to have ewes put to breeding before one year old, though we have had yearling ewes raise a good lamb. The sow may breed at six months old, but we would prefer to wait two months longer. The boar also six months, but the number of sows he is bred to should be limited, as it is not

likely to prove unproductive, or get small litters of small pigs.

The bull that is to be used upon the ranch, or the boar that is to range in the pasture, should be well matured and not pampered and fed to bring early maturity, as would be one on a small farm, confined to a small yard. He will need to be more hardy, because of his exposure to all the changes of weather, and his more exercise.

Not the least in the care of breeding stock is the importance of always handling them gently, to keep them in good temper. Not only does a bad disposition make them unpleasant to handle and often dangerous, but they may transmit this ugliness to their young. We have seen colts and calves that had as evidently inherited evil tempers and

well in a woods pasture without any other food than the acorns they find there. Adjoining is a field of rye into which they will be turned later. He grows sorghum to give them in the winter. Will also feed middlings for about a month before farrowing, if it is as cheap as corn, but will begin to give corn a week or two after farrowing. While this may be good doctrine for Indiana, it is scarcely adapted to New England and New York. In this colder climate, even with their well-built houses and yards, the proportion of cornmeal in the feed needs to be increased over what would be given there, for the very reason that he says it is a fault in it, because it is heating. We would not try to keep a brood sow through the winter to farrow in the spring unless about one-third

records of their ancestors. But the well-established agricultural paper which is careful not to advertise humbug, will usually prove the best medium for reaching the class that, if not able or willing to pay the highest prices, will be most benefited by the introduction of new blood and pure blood, bred and reared for some special purpose other than that of perpetuating their species. The special purpose publication brings together the breeders who may be ready to sell or buy at high prices of one another, but the truly agricultural paper brings the breeder into touch with a class who need to buy, but must sell what they have, and what they gain by grading up with pure-bred animals, at its market value for food.

kinds of poison, and we never saw that such milk hurt them any, as it was by no means a steady or frequent diet.

But Professor Ward treats of another kind of ropiness in milk and cream, which is not apparent until twelve hours or more after it has been drawn from a cow with an apparently healthy condition of the udder and the whole system. It gradually becomesropy and glutinous, adhering to anything it touches, and stringing out into threads like molasses or honey.

He writes as if he thought this condition did not make the milk injurious to the health of those who may partake of it, but harmful to the producer, because its appearance is disgusting to buyers, who will avoid buying such milk when they find the trouble

due to the milk, and thus impart to it some of their qualities, as the flavor of the onion or turnip. Why not these living microscopic organisms of bacteria go along with them?

Should not one of the first conditions be, when this trouble is known or suspected to exist, to insure that only pure water is given, and all sources examined which may be thought to contain such bacteria? If they are to be found in the water used at the house or barn for washing pails and strainers, we cannot trust even our own wells.

What sure have we that such milk is not unwholesome as well as unpleasant to drink or to look upon? If it is due to bacteria in the water, is the water wholesome, even if it does not becomeropy? If water thus affects the milk of the cow, why may it not also have its effect upon the milk of the mothers of our infants? These are a few of the questions that we would ask of Professor Ward or any other professor who has investigated the matter, for we frankly say that we do not think such a change could take place in milk and cream with making it unwholesome as a food, at least for infants and those of weak digestive powers.

We have seen cream assume this viscid,ropy, stringy character when being churned, and the butter maker told us that it did not come to butter, or if it did was only a small part of what should have been from the amount of cream, and even that of very poor quality. If good butter or good cheese cannot be made from milk, we want none of the milk.

Bacteria, like animalcule, have probably existed from the beginning, and we have eaten, drank and breathed them for many years, and are still alive, but when the professors tell us about them, let them tell us how to avoid such as give us pains and aches and sick days.

Notes from the Green Mountains.

At this date there is no sleighing here. The fields are brown and bare. The first snow of the season was falling at midnight of Oct. 21, the last ten days of the month being the open season, and the hunting of deer commenced. A party of young men, two of them from New Salem, Mass., camped upon Mt. Abraham; and, after leaving their camp on the morning of Oct. 22, discovered a bear's track and followed the trail until it was obliterated by the fast falling snow.

This snow did not remain, however, but another snowstorm of Nov. 10 was sufficient for sleighing, and it continued to snow at intervals of a few days; and upon the morning of Thanksgiving Day, many roads were blockaded and the severe cold prevented many gatherings upon that occasion. Thanksgiving eve the Lincoln Lumber Company's plant, for the manufacture of butter tubs and boxes, was destroyed by fire.

After a month of good sleighing a thaw set in, Dec. 10, which carried off the snow and raised the streams, and the volume of water is still high.

Bulletin No. 90 of the Vermont Experiment Station is entitled "Apple Growing in Addison County." It estimates the number of bearing trees, standard varieties, to be 26,580, the crop of 1900 30,660 barrels, of 1901 10,870 barrels. In my own opinion this is an under estimate, both of trees and apples, taking in all the towns in the county.

Grand Isle County produces about one half as many apples as Addison County, but still claims pre-eminence from the fact that Addison has a larger area, having 367,153 acres in farms, while the island county has but 47,250 acres.

Though Grand Island citizens have remarked that their apple growing was the greatest in the State, it is a fact that Addison County produces a considerable larger quantity of apples every year. The principal buyers and the best judges of quality prefer the Island apples, and any superficial observer, touring the two counties, would say, unquestionably, that Grand Island grew the best fruit. He would also be likely to say that the methods of caring for orchards were very much better in the little county.

In this respect the Addison practice is not up to what it should be, and this is chiefly what moves the Experiment Station people to go over the ground thoroughly and publish this bulletin of observation. The hope is that when attention is called to the importance of the apple industry in Addison County, and to the insufficient care which the orchards get, and to the gratifying results of better methods, then some general improvement will follow.

The great advance recently made in Grand Island County in the fruit industry is chiefly due to the enterprise of the men themselves, and we feel sure that the apple growers of that district will give the Experiment Station credit for having been of material assistance. S. S. STEARNS.

South Lincoln, Vt., Dec. 27.

The annual report of the Commissioner of Agriculture for the State of New York to the Legislature, says there has been but comparatively little oleomargarine sold in that State during the past year. The majority of cases where it was detected were in New York city, and he thinks the greater number of those who handled it were detected. The milk received in New York city in 1901 was 14,000,000 cans of 40 quarts each. They detected 4160 violations of the milk laws. They have tested 400 cows with tuberculin for tuberculosis, and thirty horses were tested for glanders. There were grown in the State about 47,000 tons of sugar beets, from which should be made about nine million pounds of sugar. They have inspected 7156 acres of nursery stock and 274 acres of vineyards for the San Jose scale, and issued 439 certificates to their owners. The number of fruit trees inspected was 32,162,604, while the year before then 25,655,303 trees were inspected.



CROSSED STRAWBERRIES, FROM SEEDS PRODUCED THE PRECEDING YEAR.

of her concentrated food was cornmeal, and that we would add a handful, or perhaps a half pint, of ground beef scraps, according to her size, at every feeding, unless we had an abundance of skimmilk to give her. A week after she had farrowed we would gradually increase the quantity given and the proportion of the corn meal also, until she would have two-thirds corn meal when she began to wean the pigs at eight weeks old, which we think is the proper age to take them away from her, if they have been taught to eat at a

Dairy Notes.

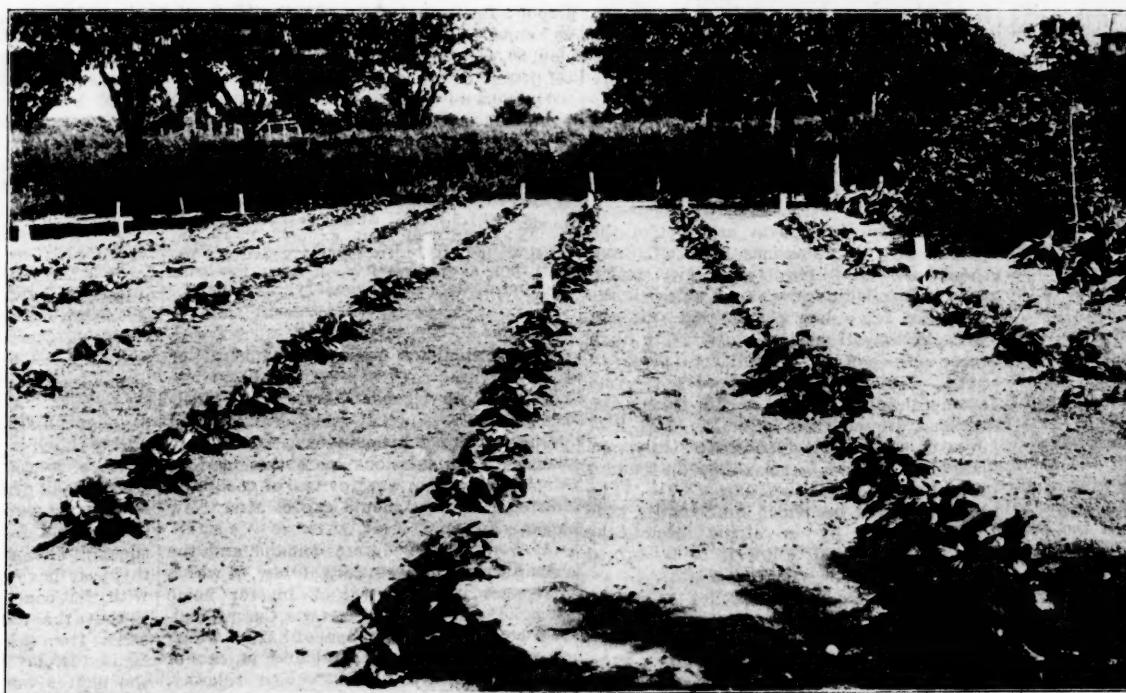
The bulletin lately sent out by Prof. A. B. Ward of the Cornell Experiment Station at Ithaca, N. Y., in regard to "ropy milk and cream," treats upon a trouble that we never chance to experience, though we had heard and read of it before. We have had what we calledropy, stringy or lumpy milk when it was drawn from the udder, and sometimes the first notice of it we had was to find that the milk would not pass through a cloth strainer.

"After milking at night the milk pails and strainer cloth should be washed and sealed before using in the morning, or a

to exist. We do not blame them, and we should have our doubts about the wholesomeness of suchropy milk or its digestibility.

But he claims this to be due to bacteria, and such bacteria as live naturally in water. As we never saw bacteria or bacilli, and would not recognize them under a microscope, we will accept his opinion, and give his directions for avoiding them.

"In other cases we found the udder and



THE STRAWBERRY GARDEN.—CROSS-BRED PLANTS IN THE THREE ROWS IMMEDIATELY IN FRONT.

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Live Stock Notes.

A Kansas cattle grower says there are now thousands of cattle grazing in the wheat fields of Kansas, and look in first-rate condition. The owners pay the farmers seventy-five cents to \$1 a month per head for the grazing, and he thinks the farmers are making the most money out of it. The cattle get fat upon the wheat, but the flesh is not hard. He has known thousand-pound steers to shrink one hundred pounds each from the time they leave the wheat field until they reach the scales at the markets. If they could be stalled for a while on hay and grain after they are taken out, it would not be so bad, but they will not go back to dry feed after a few months on the wheat.

The stock breeder who wishes to sell some of his pure-bred animals for breeding purposes, whether it may be of cattle, sheep, swine or poultry, needs to advertise. The most successful breeders, or those who make the most money, are those who have made themselves known by advertising. If they pay or receive an extra price for an animal of extra quality they do not keep it a secret, but manage to let it be known, even if they have to pay advertising rates to secure its publication. That is one way of making themselves and their stock known and commented upon. Exhibiting at fairs is another way, and often proves profitable, even though the premiums gained do not equal in value the cost of exhibiting. Another way, and not the least important, is to always send out animals as near to perfection as possible, and exactly as represented. This makes every buyer a walking advertisement to praise the stock and the breeder. In placing advertisements, the local paper should not be neglected nor the special purpose paper, devoted to only the kind of stock which you may have, this being especially useful for advertising the very fancy and high-priced stock that already has a reputation established by the

teats, or a part of them, inflamed, swollen and sore, and the milk in the same condition, and in a few instances we were able to trace this to a blow or kick from another animal, or were confident that it had been caused by the hunting of a hungry calf, or by too hard pressure of one who was trying to milk rapidly. In other cases we thought it might have been caused by the milk not having milked the udder dry, and leaving milk to change and ferment in the milk glands.

Perhaps we were very ignorant then, knowing nothing about bacteria, or more properly mammitis, or inflammation of the udder, even when there was no apparent swelling or soreness. But we always succeeded in removing the trouble by giving about an ounce or tablespoonful of saltpetre in a little grain after we had finished milking. It did not always yield to the first treatment, but did not often fail to give way at the third dose, especially as, if the udder or teat was swollen or inflamed, we gave fomentations of hot water as hot as we could bear our hand in, and rubbed the afflicted part freely, and sometimes in bad cases three or four times a day, drawing all the milk we could at the same time.

We knew or thought that in some cases the injury to the udder or teat caused the inflammation, and the consequent local feverish condition affected the milk. In other cases we thought a feverish condition of the animal, caused by taking cold, or by indigestion from improper food or over-eating, affected the milk first, and that affected the milk glands of the udder. In either case we thought all such milk was unfit to use for any purpose, even to make butter or cheese from, or to feed to calves or young pigs, though we have risked giving it to old hogs, as they are said to be immune to nearly all

second set thoroughly clean and scalded should be used in the morning. The practice of merely rinsing pails and strainers in cold water at the barn at night offers an opportunity for the introduction of the bacteria into milk directly from the water.

"If the cows wade in mud and smear the udders with dirt and filth, put a stop to it. By this means many objectionable bacteria get into milk by falling into the milk pail.

"The floors of all rooms whereropy milk has been kept should be disinfected with a mixture of five parts of crude sulphuric acid to ninety-five parts of water.

"All milk utensils should be scalded most thoroughly daily. Never let cold water come in contact with utensils unless they are sealed before using for milk again.

"Exercise the greatest care to prevent even a drop of water from the cooling tank getting into the milk. That occurrence is probably the most common cause of trouble fromropy milk. If water must spatter about, the cans standing in ice water should be covered.

"Utensils after washing and scalding should stand upside down to prevent the accumulation of dust on the inside."

All of this is good advice to follow whether there are any bacteria or not, or whether anyropy milk has been found or not, but we would go a little farther in our precautions where it has been found, if not in all cases.

If these bacteria are in the water, they are, we would suppose, more apt to exist in ponds, brooks, and stagnant waters than in springs, wells and clear running streams. Is it not possible that such bacteria when swallowed by the animal while drinking may pass through the system uninjured and perhaps increased in virulence until they reach the milk glands? The food and the water pass through the digestive organs to pro-

Agricultural.

Something About Salts.

"Do you know anything about salt?" inquired the man with a spiral nose that twisted into remote corners. "No? Neither did I, until I had read the report on the subject issued by Mr. Merriam, who runs the census office. I had an idea that we got all of our salt out of a barrel or one of these little bags you buy in the grocery store for two cents, but we don't. Then I had an idea that we got most of it from the vast salt deposits in the arid country of the West, but we don't. When I was a small boy living in the Kentucky hills I used to see barrels marked 'Kanawha,' and I thought that all the salt in the world came from the Kanawha River country, but it didn't. My father, an iron manufacturer, used to mould big salt kettles which were hauled on wagons away back up the Big Sandy River, where they were used in boiling the salt water from springs in those parts, but all the salt didn't come from there, either. According to the census reports we harvested—say call it 'harvesting'—15,187,819 barrels of salt in 1899, 5,206,510 barrels of which came from Michigan, which is the first in the list of salt-producing States: New York stands second with 4,804,832 barrels; Kansas third with 1,645,230, and Ohio fourth with 1,460,516. California, Texas, Utah, West Virginia, Louisiana, Pennsylvania, Illinois, Oklahoma and Massachusetts follow in the order named, none reaching a million barrels, and all the other States only produce enough to make a showing by being bunched. The value of the product was \$7,966,897, or about 50 cents a barrel, a barrel holding five bushels or 280 pounds, which is cheap enough for the salt of the earth, isn't it? We consumed all this salt ourselves, something over four and a half billion pounds among something over seventy-six millions of people, or about sixty pounds per person. Using that much salt per person, we oughtn't to be as fresh as our foreign rivals say we are, ought we?"

The first attempt to make salt in this country was at Plymouth, Mass., in 1624, the material being sea water, but it was not successful, and until the Revolution we brought our salt from over the sea, instead of out of it. Up to 1812 we made most of our salt out of sea water about New Bedford and Cape Cod. Attempts were made with small success to make salt from springs in Pennsylvania in 1784, in New York in 1788, in Louisiana in 1791, and in what is now West Virginia on the Kanawha River in 1797. The first "Ohio" salt was made in 1798 at the old Scioto Works. California began her salt harvest in 1852 with sea water, and Utah began in 1847 on the shores of Great Salt Lake, with a product in 1899 of 235,671 barrels. Kansas made its first salt from the marshes, but in 1857 a body of rock salt was found by prospectors for petroleum, and extensive mines have since been developed. In sinking through 265 feet of salt strata with a total shaft depth of 1035 feet fifteen workable veins of salt were found, varying in thicknesses from four to eighteen feet, and the eighteen-foot vein has been producing the bulk of the salt. On Avery Island, Louisiana, a similar rock vein has been known and worked for more than a hundred years. The Confederates got 22,000,000 pounds of salt from this island in eleven months during the war, but in 1899 Louisiana gave up only 208,850 barrels from all her mines. Michigan, the leader, bore her first well in 1859 at East Saginaw, and in 1870 turned out only 756,263 barrels, as compared with 5,206,510 barrels twenty-nine years later. New York was the first State to pass salt laws. This was in 1797, and for over a hundred years she controlled the Onondaga reservation, furnishing the brine to those who paid for it. Rock salt was first mined in 1855, and several shafts were sunk in Livingston and Genesee counties, the Livonia being 1432 feet deep; but they are all under one company now. The product varies from 150,000 to 250,000 tons per year, as may be required. In 1830 Pennsylvania produced 100,000 barrels, valued at \$200,000, and in 1899 there was but one establishment, and Pennsylvania was classed with the "all others." The early salt history of West Virginia is interesting, and Kanawha salt at one time was a leader, but the business has fallen away, and the State is now seventh in the list.

"The three kinds of salt produced are rock salt, mined from the veins in the ground; solar salt, produced by running the brine into pools, where it is evaporated by the sun, and the boiling process, where the brine is boiled in pans and vats. This is by far the most in use, 11,733,166 barrels being produced in this way to 910,974 solar and 2,543,679 rock. The brine used in boiling comes from springs or wells. The amount of imported salt used in 1899 was only 8.3 per cent. Not included in the production cited are about four and a half million barrels as intermediate product used in the manufacture of chemicals, and not properly marketable salt. The figures are pretty large," concluded the talker, "but the one thing that we cannot exhaust, let us be as extravagant as we will, is our salt supply, and if every other source would stop on the spot, except the waters of the Great Salt Lake in Utah, there is enough there to supply the world for thousands of years, at least. I have seen figures going to prove that to be a fact."—New York Sun.

Milk Prices in Connecticut.

Fifty or more of the milk producers and pedlers of Hartford and vicinity met in that city on Dec. 18 to discuss the milk situation. It was generally claimed by them that milk could not be produced and sold at a profit at existing prices, while the grain feed cost as much as it does now. It was said that several thousand quarts were daily brought into Hartford and sold at three cents per quart at wholesale. A standard price of seven cents per quart was strongly advocated. Producers claimed that there was no profit in making milk at four cents a quart, and a resolution was introduced that a committee of the producers and pedlers should draw up an agreement to make seven cents, the retail price should be kept at seven cents, the agreement to be void if not signed by two-thirds of those selling milk in Hartford.

The pedlers said there was no profit in buying at four cents and selling at six cents a quart. If they paid five cents, they must sell at seven or eight cents. Some producers had contracts to sell at 3¢ or four

cents during the winter, and while others were inclined to blame them for making such contracts, the pedlers said that the distance from their farms to the consumer was such that they preferred to pay more for milk nearer to market than to make any more such contracts. There are about two hundred milk pedlers in Hartford, and it is expected that nearly all, whether producing or buying the milk they sell, will agree not to retail milk at less than seven cents a quart. Even now some of those who produce their own supply, and claim to have better milk than others, are getting eight cents a quart. If the requisite number of signers to the agreement can be obtained, the new rates are likely to go into effect about Jan. 1.

On the same date a meeting of the farmers who supply Willimantic was held, and out of the twenty-five who sell milk in that city, twenty were present. They organized as a Milk Dealers' Retail Association, and after choosing officers, the question of milk prices came up. There were some who wanted the established rate to be seven cents a quart, but they finally agreed to compromise on a retail price of six cents up to April 1, 1892.

Our sympathies are with the producers in this matter, for while we think that with good cows, good food and good care it may be possible to produce milk at less than four cents a quart, the man who knows how to secure all this and will do so, certainly should get a little more than a bare living profit for his skill and experience.

Barrenness of Corn and Wheat.

One of the greatest factors in the production of corn and wheat is the relative amount of barrenness in the stalks. Every farmer is familiar with fields of either grain which promise an abundant yield, but when the counting of the harvest is made there is a great disappointment. It is found that the crop was deceptive. There was more stalk than grain. Every third or fourth stalk in some fields is barren. When grain gets down to such a low state of productivity it is time that some other farming should be resorted to. Yet not a few farmers face this condition and continue to plant the same and hope for better times. Some will lay the blame to the soil, others to the season, and a few to the seed or method of cultivation. In my experience I have found that the seed is more at fault than anything else. Provide reasonably fertile soil and fair cultivation and good seed will produce a pretty good crop, but on the finest soil, and with the best of cultivation, run-out seed will simply increase the stalk supply and not raise the yield of grain ten bushels. It is not soil of cultivation that will increase the yield of poor seed, but new and better seed.

Not all of us appreciate the power of running out that is always present in seed. Unless systematically improved by "breeding" seed, corn or wheat will degenerate at least ten per cent. In a single year our crops are reduced almost one-half. All of our crops have been raised to their present high standard through artificial means of breeding and selection. Now the average man cannot breed and improve seed. That is not his work, but he can insist that the seed be sold to him that has not been run out. By insisting upon wheat and corn that represent the highest possible productivity, the farmer can increase his yield per acre much better than by spending anxious moments and a good deal of money in fertilizing and cultivating the fields. The one absolute essential is wheat and corn that has been systematically bred to the point where the highest possible returns can be had from every single stalk that comes up. We want no barren stalks, or very few, at least.

T. L. RIDDING.

Renewing Old Orchards.

The question how to renew an old orchard is again taking up its annual round in the agricultural papers. Some growers recommend top grafting, but, in my experience, this is one of the most uncomfortable, disagreeable jobs in an orchard. To get into the top of an apple tree with a basket of tools, wax and scissors, standing on a limb of the tree, or on a ladder, is downright torture.

Then, when one has sawed off a limb and undertakes to split it, he finds that, while the bark splits straight, the grain of the wood is winding around the stock, hence the split of the bark and that of the wood do not correspond. Then the bark has to be cut away on one side to admit the scion, and the chances are that by the wind of the wood the bark has been so far separated from the wood that a union with the scion is very doubtful.

Again, think of the time it requires to go through an orchard and top graft every tree! Having had experience with that method, and suffered from such irksome work and failure of scions to form a union, I have adopted a very different, and, as I believe, a much better, cheaper and more certain way of renewing an old orchard.

I cut the trees down close to the ground, over the stump with a little earth, or place over it a fresh sod. This should be done late in the fall, or in the winter, as stumps prout better when you cut at that time of the year. The next spring the stump will throw up many sprouts. I allow them all to grow the first season, then in the fall, I select two good ones and bud them, or wait until the next spring and graft.

These buds, or grafts, will make a very rapid growth and will be growing better every year, and will come into bearing as soon as the top graft, which will fail in a few years. All surplus sprouts should be removed the second year. If a low head is desired, the first year's growth of bud or graft should be cut back to four or six buds, leaving but one scion to grow after the first year.

N. B. WHITE.

What the Birds Eat.

One of the most notable difficulties experienced by experts of the Government Bureau of Ornithology, in studying the contents of birds' stomachs, a plan pursued for the purpose of finding out just what amount of good or harm is done by various species incidentally to their feeding upon insects, seeds and fruits, has been to identify the different kinds of bugs whose remains are discovered in the digestive apparatus. Birds often mutilate their food before swallowing it, and the gizzard afterward reduces it to fine fragments.

The men who do this work of investigation have become extraordinarily skillful at it. In a pinch of grasshopper dust the trained eye of the expert quickly detects a tiny jaw with a grooved cutting edge, and a grinder; or, if the jaw is lacking, a search seldom fails to reveal a little piece that looks like a human ear, but which in reality is part of the knee joint of the insect.

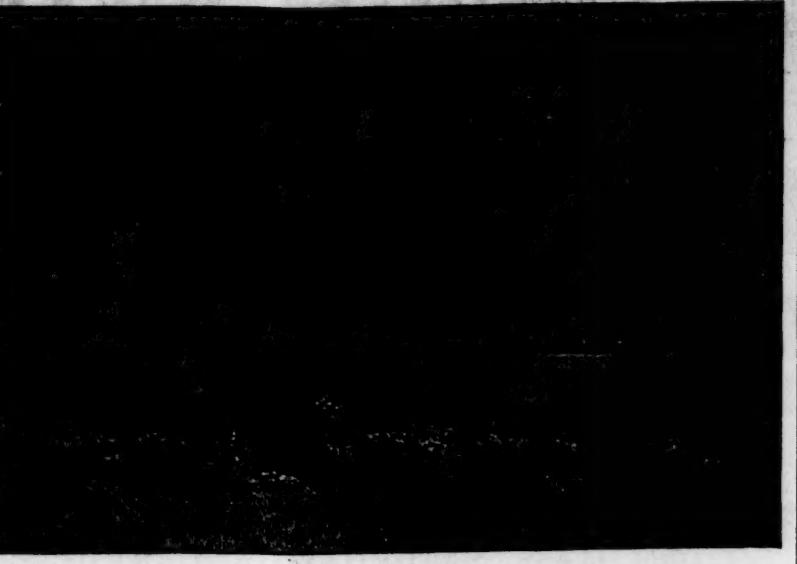
The remains of caterpillars found in bird stomachs usually consist of little packets of broken skin, which has been twisted and

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Get run down, even if they do not die. Hood Farm Cal Scour Cure and corrective, used in connection, cure scours promptly; keep calves from shrinking.

\$1 and \$2.50. Sent to any railroad express point in U. S., 25¢ extra. C. I. Hood & Son, Lowell, Mass.

15¢ and \$2.50. Sent to any railroad express point in U. S., 25¢ extra. C. I. Hood & Son, Lowell, Mass.



DUKE'S SIGNAL QUEEN 2d, 82418.

rolled into such compact form by the action of the digestive organs. Sometimes nothing is left by which to identify these insects except the concave jaws, which are of so peculiar a shape as to be unmistakable. Beetles have hard shells, and so their remains are easily recognized. Butterflies and moths are more difficult, but they may be distinguished by the scales of their wings when examined under the microscope.

Many soft-bodied insects are recognizable by their hard jaws, which resist destruction in the bird's stomach. The hinged body of a click beetle is provided with a tooth which strikes against half of the hinge and produces the clicking noise when the beetle springs into the air. This tooth, when found in a bird's stomach, is often broken off from the body, and is sometimes all that is left to show that a click beetle has been eaten.

The wing-covers of weevils (the insects that devour stored grain) resemble pieces of earthenware on minute scale, and so are easily identified. Recognition of butterflies and moths is much harder, as the distinguishing features are mostly in the veining of the delicate wings. Ants, on the other hand, can always be recognized, even when the action of the stomach has reduced the insect to dust, by the very hard jaws, which look like a pair of gauntleted hands.

Spiders are identified by their jaws, which look like miniature cow-horns, and by their little eyes, which, beneath the microscope, resemble clusters of gleaming gems. In studying the remains of earthworms the compound microscope has to be used, the high-power lenses revealing the peculiar amber-colored spicules with which the bodies of these annelids are covered. Remains of May-flies usually contain some of the prettily reticulated eggs of the insects, each of them holding a golden globule of oil.

Birds take into their gizzards for grinding purposes many curious things. Sparrows sometimes utilize in this way small fragments of mica, tourmaline, and even volcanic lava, and in Kansas they employ in manner like the disk-shaped sections of the stems of fossil sea-urries. A sooty grouse taken in British Columbia was using in its little mill four small nuggets of gold.—Saturday Evening Post.

Orchard and Garden.

One and perhaps not the less frequent reason why spraying for the codling moth does not prevent wormy fruit in the fact that much of the Paris green sold is so much adulterated at to have little effect. It may be better to use the arsenate of lead made by mixing two ounces of arsenate of soda, 3/4 ounces of acetate of lead in fifty gallons of water. If there is only forty gallons of water this is said not to burn the foliage. Another trouble is not using at the proper time. Apply it as soon as most of the petals of the blossoms are off, and then about once in ten days or two weeks. Spray from both or even four sides of the tree, if a large one. Trees that are not well pruned will need more spraying than those with open tops, in order to reach all parts. Late applications need not be as strong, and if the trunks of the trees have burlaps around them after the middle of June on early bloomers, and after July 1 on late bloomers, the larvae will collect under them and can be killed once a week. The burlap should be about four inches wide and confined by a string about the middle, which will allow it to be turned up or down to see what is beneath.

The destruction of the apples that fall in the June drop, by feeding to sheep or swine, will lessen the chance of late or the second and third broods, but this needs to be done soon after they fall, as they will escape and pupate wherever they find shelter, preferring a bit of rough bark on the tree. Some who have not had good success in spraying may safely put the blame upon careless neighbors who neglected their trees. The female moth will fly two hundred yards at least, and may go farther with a favorable wind.

Duke's Signal Queen 2d, 82418.

Duke's Signal Queen 2d, dropped May 22, 1899, the subject of the accompanying illustration, is one of the largest yearly products. All surplus sprouts should be removed the second year. If a low head is desired, the first year's growth of bud or graft should be cut back to four or six buds, leaving but one scion to grow after the first year.

N. B. WHITE.

These buds, or grafts, will make a very rapid growth and will be growing better every year, and will come into bearing as soon as the top graft, which will fail in a few years. All surplus sprouts should be removed the second year. If a low head is desired, the first year's growth of bud or graft should be cut back to four or six buds, leaving but one scion to grow after the first year.

Lowell, Mass.

Domestic and Foreign Fruits.

Apples in but moderate supply. Only 11,043 barrels arrived last week. Choice lots selling well, but cheaper stock dull. King at \$4 to \$5 per barrel, No. 1 Greenings and Maine Baldwins \$3.50 to \$4, common \$2.50 to \$3, Spy \$3.25 to \$4, Snow and Wealthy \$3 to \$4, Western Ben Davis \$3 to \$3.50, Pound Sweet \$3 to \$4 and Talman Sweet \$2.50 to \$3, mixed lots \$2.50 to \$3.50 and No. 2 \$2.25 to \$3. A few pears left in storage, and cleaning up at \$2.50 to \$3.50 a box. Cranberries in full supply and dull at quotations. Cape Cod fancy best \$6 to \$6.50 a barrel, choice sound \$5 to \$5.50, common to good \$3.50 to \$4.50, crates \$1.50 to \$2. But few grapes here at 12 to 15 cents for small bunches. Malaga grapes steady at \$3 to \$8 a case.

Florida oranges in good supply, choice bright \$3.25 to \$3.50 a box, Russet \$3 to \$3.25, and tangerines half box \$2.25 to \$2.50, mandarins \$1.75 to \$2.25, grape fruit good to choice \$3 to \$5.50 a box. Jamaica oranges \$4.75 to \$5.50 a barrel, \$3 to \$3.25 a box. Grape fruit \$2.75 to \$3.75 a box. California Naval oranges, choice to fancy \$3 to \$3.50, and seedlings \$2 to \$2.38. Lemon choice \$2 to \$2.50, fancy \$2.75 to \$3.25. Messina and Palermo choice \$3 to \$3.25, and fancy \$3.25 to \$3.50 for 300 counts, 300 counts 25 counts lower for same goods. California figs 75 to 8 cents a pound, and Smyrna 12 to 17 cents. Dates 4 to 4.5 cents. Florida pineapples dull at \$2.50 to \$3 a box for smooth Cayenne, \$2.25 to \$2.50 for Abbaka. Bananas \$1.30 to \$2.50 a stem.

BOSTON'S COMMERCE.

So far as can be learned from the books of the Boston Chamber of Commerce, Boston this year has passed one of the best years in its history, both as regards receipts and exports, and while some commodities have not produced as large figures as they did in 1900, they are in the minority and are far overbalanced by the increase on other staples.

Grain naturally takes first place in the export trade, and it is by only a slight margin that the best previous record of the port has not been surpassed. In 1899 the grain shipment—wheat, corn and oats—reached a total of 35,611,772 bushels; this year the total is 35,029,700 bushels, exclusive of the amounts to be carried to England in steamships Sylvania and Bostonian, but which are not known at the present writing. This leaves a margin of a trifle more than 500,000 bushels in favor of the record of 1899. This year's figures, however, run far ahead of those of last year, when the total grain exported was only 30,357,108.

That the grain exports of the last three or four months fell off so materially is due to three principal causes. First, the ear shortage in the West, because of which transportation of wheat, corn and oats to the seaboard was so thoroughly demoralized that many steamers were forced to sail from Boston with only a small part of their cargo of grain and, at that were delayed from hours to days; second, the reduced condition of foreign markets as regards oats, and which almost completely shut off the supply from this port, at least; and third, the low ocean freight rates of late, which in one or two cases have reached that stage where the owners or agents preferred to send steamers across the Atlantic with water ballast rather than take grain.

The best month's shipment of this year was made in May, when 2,205,243 bushels of wheat, 1,325,855 bushels of corn and 813,212 bushels of oats were carried to foreign ports.

The Quincy Market Cold Storage Company gives the following statement for the week ending Dec. 28. Taken in 429 tubs, out 6890 tubs, and 16,750 pounds in transit for export, and with the latter deducted the net receipts were 522,644 pounds, against 613,244 pounds the previous week and 609,524 pounds the corresponding week last year.

The exports of butter from Boston for the week ending Dec. 28 were 12,560 tubs and 23,243 boxes, a total weight of 609,394 pounds, including 86,750 pounds in transit for export, and with the latter deducted the net receipts were 522,644 pounds, against 613,244 pounds the previous week and 609,524 pounds the corresponding week last year.

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The exports of butter

poultry.

Practical Poultry Points.

Two years of experimenting at the West Virginia Station has brought them to the opinion that fowl do as well, keep as healthy, and lay as many or more eggs when there are no floors to the henhouse, as when they have floors. We came to the same opinions several years ago, say after we had about twenty years experience, proving the ground inside was higher than the outside, so that it would be always dry. That is, we are speaking of wooden houses. But the best arrangement we ever tried was a cement floor, a little higher than the outside floor, and cemented against the foundation wall up to the sills, then filled with three or four inches of dry sand, and a litter of leaves or straw for them to scratch in. Apparently always clean, excepting that the litter needed occasionally to be renewed; the sand after being used a year would scarcely have changed its appearance at all, yet used as a top-dressing for grassland it gave better results than the best rotted manure we had at the time or barnyard. We have not always been where we could easily get such sand and loam did not seem to be as good.

Again in one corner a box filled with road dust or part dust and part ashes, for them to allow in, and have feed troughs for soft feed, oyster shells and grit, and the water dishes, high enough for them to eat from standing erect, which will prevent them from throwing much dirt in them when scratching; also have a slanting cover or roof over them so that they cannot stand on them, and have all these so that they can be moved out of doors when the house is to be cleaned, also have the nests and roosts so that they can be taken out. In a house so made there is but little need of ever having to clean fowl, and they can be kept inside during bad weather or when the snow is on the ground, and not suffer for lack of exercise.

Several weeks ago we suggested that the "red albumen" letter, which we had seen in certain of our exchanges, was a fraud, or scheme to get free advertising for a worthless article, or to induce people to pay a high price for the only real "red albumen" product that we know of, dried blood. It has been since denounced by all the poultry papers and most of the agricultural papers we have seen. It seems to have had both results. The price of dried blood went up several cents a pound at such drug stores as sold it, while those who sent to the writer of the letter for it received only "red ochre," a mineral compound that used to be in some favor for painting buildings and fences, but which had no albumen in it, and is of no value for feeding to poultry, if it would not actually dangerous to them.

A correspondent of the Nebraska Farmer suggests in a cross of the American Dominique, Black Java and White Birmingham, and the White Rocks were first started by sports from the Barred Rocks, which took back to the White Birmingham blood. This, perhaps, is as reasonable an explanation of the origin of the two breeds as any we have seen, though we have also seen a statement that they started from a cross of the Dominique upon the White Cochins. Possibly different strains may have been started in each way, for the Barred Rocks and the white birds we know have been produced from Barred Rocks crossed with white Leghorns, and also with white Cochins. This seems a reasonable explanation of the difference in size, form and laying qualities of different strains of these fowl as we knew them years ago. Since then those strains have been so interbred, and the breeding pens so carefully selected, that they are more uniform in those particulars as well as in feather.

ANNIE C. WEBSTER, Pennsylvania.

Poultry and Game.

Contrary to our expectations the Christmas turkeys were well sold out last Tuesday and without much cutting of price. Other poultry was in good supply. This week but little trade in poultry, even to hotels and restaurants, and they are rather weak at quotations. Northern and Eastern turkeys though scarce will not bring over 15 to 16 cents for best small young, others 12 to 14 cents. Choice roasting chickens 15 to 16 cents, and fair to good 10 to 14 cents. Broilers scarce at 15 to 20 cents, and the best sell readily. Fowl, choice 12 cents, common to good 10 to 11 cents; ducks 12 to 15 cents, geese, choice 11 to 12 cents, common 9 to 10 cents. Pigeons \$1.15 to \$1.25 for choice and 50 cents for ordinary, per dozen. Squabs, choice \$2.50 to \$3 a dozen, and fair to good \$2 to \$2.25. Western dry-packed poultry in boxes, turkeys, choice headed 12 to 13 cents, with heads on 11 to 12 cents, fair to good 10 cents and No. 2 8 to 9 cents. Chickens, choice 12 cents, fair to good 9 to 11 cents, and fowl 9 to 10 cents. Capons 14 to 15 cents for choice large, small and medium 12 to 13 cents. Ducks, good to choice 10 to 13 cents, and geese 9 to 10 cents. In barrels, turkeys, choice young 11 to 12 cents, common 9 to 10 cents. Chickens, choice large roasting 10 cents, medium 8 to 9 cents. Fowl 8 to 9 cents, and old roasters 7 cents. Ducks 9 to 11 cents. Live poultry in moderate supply. Choice chickens and fowl 9 to 10 cents, and roasters 5 to 6 cents. Game in small demand. Wild ducks easier. Canvassbacks \$2 to \$2.50 a pair for prime, brant and black duck 75 cents to \$1, red heads 50 cents to \$1.50, mallard 85 to 95 cents, teal 50 to 60 cents, and other small shore ducks 20 to 50 cents a pair, a few grouse coming at \$1.75 to \$2. Western quail \$2 to \$3 a dozen. Wild geese \$1 to \$1.50 each. Venison scarce, saddles 12 to 16 cents, and choice cuts 25 to 30 cents. Western rabbits in large supply at 12 to 15 cents a pair.

Horticultural.

Apple Culture.

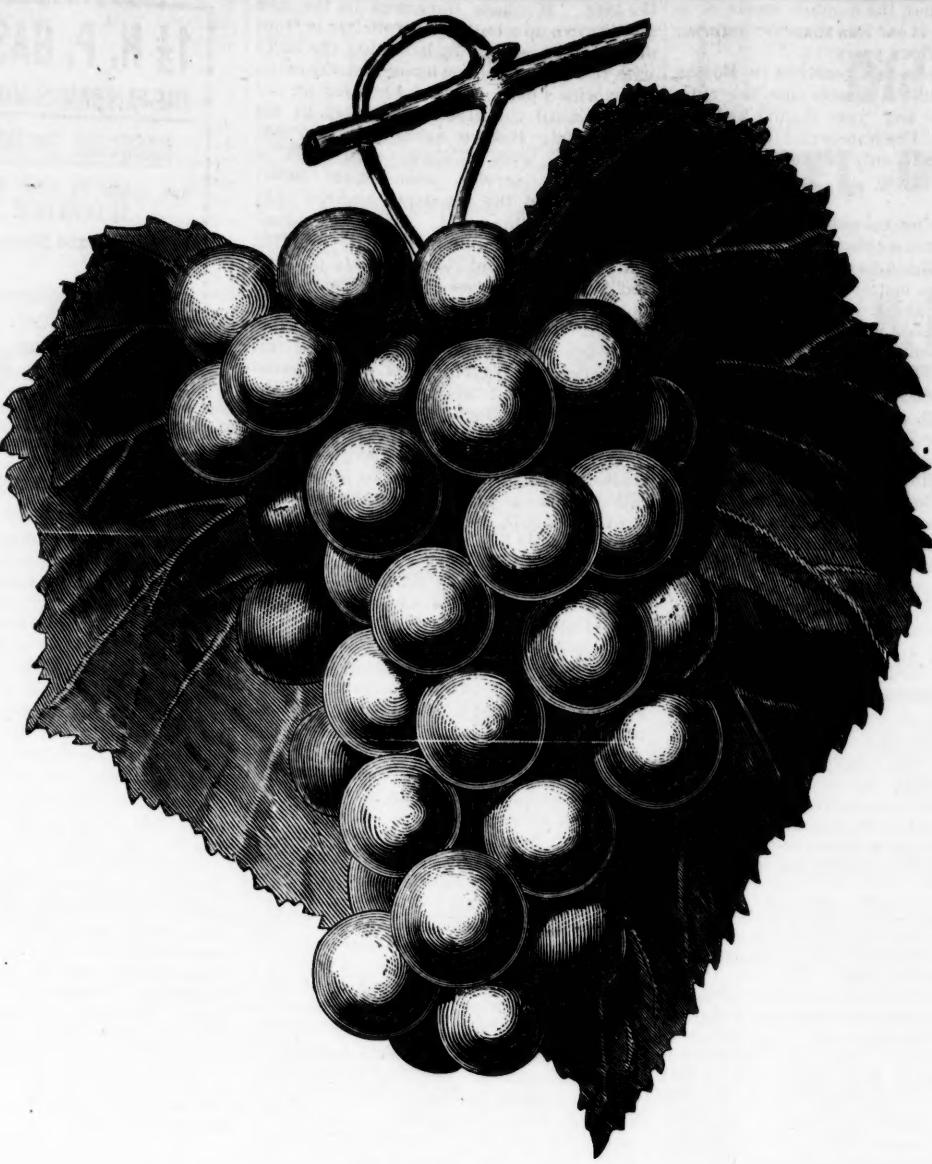
We have not by any means reached a stage of perfection yet where we can afford to give up experimenting with apple trees. The culture of apples is bound to spread and increase as the demand for them continues, and the question of finding the right varieties for the right soil and climate is something that we need to know more about. The attempts made in this country in recent years to graft some of the hardy Russian apples on our native stock show that results may yet be achieved which will make the future more promising to the apple grower than the present. In the past dozen years we have developed new varieties of apples which command the highest market prices. Some of these have not yet attained any particular success in European markets, because shippers are very conservative in their methods, and they do not like to try a new method. The Official Freight List makes the New York exports to Europe and Africa, including last Saturday's sailings, 14,528 boxes of bacon, 2776 hives and 40,038 packages of lard, 2776 packages of beef and 246 barrels of pork.

—Tratton makes the exports from the Atlantic and Gulf ports last week to include 38,700 barrels of flour, 1,173,000 bushels of wheat, 395,000 bushels of corn, 2230 barrels of pork, 11,867,000 pounds of lard, 32,833 boxes of meats.

—Eastbound shipments from Chicago to the seaboard last week were: Flour, 226,619 barrels, an increase over the previous week of 38,224, and an increase of 32,000 barrels compared with the same week last year; grain, 1,479,000 bushels, an increase of 62,000 bushels over the previous week, and an increase of 77,000 over the same week last year; provisions, 47,878,500 pounds, a decrease of 3,082,756 from the previous week, and a decrease of 527,890 as compared with the same week last year.

—The State Agricultural Board of Kansas reports a wheat crop for 1901 of 90,000,000 bushels, worth \$50,000,000, and a corn crop of 21,000,000 bushels. All live stock excepting swine and sheep show an increase, which as a total amounts to \$9,500,000. The agricultural products increased in value \$7,458,000, making the total amount produced on farms and ranches \$196,254,000, nearly \$17,000,000 more than last year, and \$45,000,000 more than two years ago. Pretty well for a season of drought.

—The shipments of live stock and dressed beef last week included 2560 cattle, 4197 sheep, 6048 quarters of beef from Boston, 2622 cattle, 2640 sheep, 18,748 quarters of beef from New York; 500 cattle, 1430 sheep, 967 quarters of beef from Baltimore; 719 cattle, 700 quarters of beef from



MALAGA GRAPE.

the soil. When the trees are first planted they should be surrounded by a fence of chicken wire, but when they have become well established they will not need this protection. The fowls will do no damage then to their roots. Indeed, it is well to cultivate the soil around the trees and let the chickens scratch and wallow in it. The chickens will actually do all the cultivation that the tree need, and if we add a little rich manure every year around the roots little further attention will be needed. The chickens will keep down apple tree borers, grubs and worms, and where caterpillars and other insects get on the leaves and branches it is only necessary to dislodge them by shaking. The chickens will then attend to them. In this way one can make the fruit yield almost as much profit as the chickens. It is certainly a profit that we cannot overlook.

ANNIE C. WEBSTER.

Siberian crab and the Western crab and hybridized them with the common apple. There are scores of varieties of apples, but very few species. All of our common apples cultivated in the orchards of the country belong to one species; but the Siberian crab, the Western crab and the common flowering crab represent other distinct species. A cross between any two of these produces a hybrid which may or may not be of value. The Western crab is known to hybridize with the common cultivated apples, and the Siberian crab will produce nearly the same results. The new race of apples thus obtained from hybridizing have much harder qualities than any of the common orchard apple trees. But to make such a new race of trees of value quality must be given to them, and this work is not always so easy of achievement. Hardiness without quality would produce no tangible good results. It is all a matter that can be determined only by long time and careful work. Yet few can doubt but in the near future we may have an entirely new race of desirable apple trees for our orchards.

PROF. S. F. DORTY.

New York.

Variety of Apples.

In parts of the country where apple raising has in recent years become an important industry, the tendency is to restrict the selection of varieties to one or two. Ben Davis has become such a popular apple in parts of the country that many believe that no other variety can be raised with profit. The fact is, some growers happen to do well with one variety of apple, and he draws conclusions that it is the best adapted to his particular State and region. Sometimes a bad year will destroy one variety and not another; therefore the conclusion is reached that the former does not thrive well, while the latter does. The mistake is one of too narrow experience and of drawing conclusions from insufficient premises.

Nease is a neighbor who raises only Ben Davis apples, and he contends that no other variety begins to do as well in his State; but not fifty miles away is one of the largest orchards of apple trees in the whole State of Ohio, and every tree is of the Baldwin variety. Comment seems unnecessary. But I will take one further illustration from actual life in my country. There lives not far from me one of the most successful apple growers in the West. Last year he made a clear profit, as he told me, of \$10,000 on his apples. Asked what varieties of apples he raised he named the following:

Ben Davis, Baldwin, Greening, King, Rome Beauty, Golden Russets, Jonathan, and Fameuse. I asked him if he named them in the order of their profit. He denied this, and said that some years he made the greatest profit out of one variety, according to the number of trees planted, and another year some other variety proved the most successful.

It all depended upon the market prices of the fruits and the relative bearing of the different trees. He had found that by having a great number of varieties of trees planted on a large scale he could depend better upon a regular crop. Some years blights, insects or other causes would affect the Baldwin trees or those of the Ben Davis sort, and not the Greenings, Jonathans or Russets. As he was in business for profit, he could not afford to run any risk. This grower represented to my mind exactly what a man should do to be successful in apple growing. The man who pins his faith to one or two varieties, I believe, will sooner or later regret it. It is better to have too many varieties than too few. The main thing is to make the selections only from a list of approved varieties, those which bring good market prices and which do well in bearing under ordinarily good conditions.

C. L. MAURY.

Tegetables in Boston Market.

The vegetable trade has not quite recovered its normal condition, which is in part due to the heavy trade before Christmas, and to the rain of Monday. Southern produce is scarce, at least that of prime quality, but winter vegetables are about steady in price. Beets are 40 to 50 cents a box, carrots 50 cents, parsnips 65 to 75 cents each, and flat turnips 40 to 50 cents. Yellow turnips 75 to 85 cents a barrel, and white French \$1.25. Onions selling slowly with prices a little in favor of buyers. Natives \$1.25 to \$1.40 a bushel, western Massachusetts \$3.50 to \$4.50 a barrel, York State \$3.25 to \$3.75, and a few Bermudas at \$3 a case. Leek steady at 40 to 50 cents a dozen and radishes 35 to 40 cents. Celery is \$2.50 to \$3 a long box for white, \$4 for Boston Market and \$3 to \$4.50 for Paschal, much not being first class. Salsify is 75 cents to \$1 a dozen.

Orchards for Chicken Runs.

One of the poorest chicken runs one can build is that barren of all shade. It is impossible for the chickens to find pleasure and comfort in such a cheerless place. A through the summer they will suffer from the heat, and the chief object of a run will be nullified for a large part of the year. Shade is necessary for the welfare of the fowls, and should be supplied artificially if it has not already given it. We should never try to make the poultry yards both attractive and profitable. Now, one of the ways to do this is to select wisely fruit and plant them in the run for shade for the fowls and for their fruit. Fowls and fruit can be raised together successfully, and one will net almost as much as the other. Every acre of poultry land not covered by fruit trees I consider wasted, whether it is failing to produce all that it should. There still exists an old notion that fowls and fruit cannot be raised together successfully, but that should be dispelled. To prove this, try a plan similar to mine.

—Select plum, cherry, apple or pear trees for the poultry run, taking care that good varieties of commercial fruit be obtained from a reliable nursery. Plant these far enough apart so that the trees will have room to grow and expand. If dwarf varieties are selected they can be planted much closer together. Plum trees should not be planted closer than twelve feet, and the apple and cherry trees nearer than twenty feet. The chicken run should be planted with blue grass and clover, and the grass will add greatly to the fertility of

the work of finding a new race of hardy apples horticulturists have taken the

The Cottage by the Sea

—covered with MF Roofing Tin 50 years ago, and good to-day as ever, is a familiar sight on the Atlantic seaboard. The careful selection of perfect black plates, repeated hand dipping, tinning by means of clarified Lagos palm oil, and the rejection of every imperfect sheet, gives

MF Roofing Tin

its superior wearing quality. MF plates have the richest and heaviest coating of pure tin and new lead (the genuine old-style terne process) and are impervious to the rust-producing atmosphere of the seaboard—the severest test that can be applied. This (M) trademark is on every sheet of the genuine MF Roofing Tin. Ask your roofer, or write to W. C. CHONEMAYER, Agent, Carnegie Building, Pittsburgh, for illustrated book on roofing.

AMERICAN TIN PLATE COMPANY, NEW YORK.



Philadelphia: 1167 cattle, 765 sheep from Portland, a total of 7864 cattle, 8832 sheep, 29,363 quarters of beef from all ports. Of this, 4883 cattle, 6092 sheep, 22,690 quarters of beef went to Liverpool; 1824 cattle, 1275 sheep, 5833 quarters of beef to Boston; 765 cattle, 135 sheep to Glasgow; 12 cattle, 689 sheep to Liverpool; 300 cattle, 750 sheep to Hull; 750 quarters of beef to Southampton, and 16 cattle, 50 sheep, 100 quarters of beef to Bermuda and West Indies.

—Washington despatch says that representatives of the beet sugar interests openly declare that the sugar trust and the tobacco interests of this country have control by option, previous purchase and other contract of the tobacco and sugar production of Cuba.

—A larger mutton market is noted, with a higher and good veal very firm. Lambs \$2 to \$2.50, medium \$2.25, long \$2.50, longest \$2.75, mutton ends \$2.25, lamb \$1.50 to \$2.25 a box, and dandellions \$1.50 to \$1.75. Parsley \$2. Romaine \$1 to \$1.25 a dozen, Endive \$1.50 cents, Florida string beans in moderate supply at \$3.50 to \$4.50 a crate.

Potatoes are in full supply, with demand moderate. Aroostook Green Mountains \$3 to \$5 cents. Hebron \$0 to \$3 cents, and both must be early to bring top price. Rose dull at \$0 to \$0.50 cents. Dakota Red and Yellow \$1.50 to \$1.75 a barrel, and Norfolk \$2 to \$2.50. Beet greens \$1.25 to \$1.50 a box, and dandellions \$1.50 to \$1.75. Parsley \$2. Romaine \$1 to \$1.25 a dozen, Endive \$1.50 cents, Florida string beans in moderate supply at \$3.25 to \$4.25 a crate.

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—Wednesday was a very dull day in the beef trade. Best sides are firm, but medium and low grades are dull and easy. Extra sides \$4 to \$4 cents, heavy \$3 to 9 cents, good 7 to 8 cents, light grass, and cows \$4 to 7 cents, extra hindquarters \$11 cents, good 10 to 11 cents, light \$4 to 9 cents, extra forequarters \$3 to 7 cents, heavy \$6 to 9 cents, good 5 to 6 cents, medium \$4 to 5 cents, backs \$4 to 9 cents, rump \$4 to 10 cents, chuck \$4 to 7 cents; short ribs \$7 to 12 cents, rounds \$6 to 8 cents, rump \$8 to 13 cents, rump and loins \$4 to 15 cents, loins \$4 to 17 cents.

—The visible supply of grain in the United States and Canada, Dec. 28, included 58,648,000 bushels of wheat, 11,232,000 bushels of corn, 5,266,000 bushels of oats, 2,481,000 bushels of rye and 2,433,000 bushels of barley. Compared with a previous week, this shows a decrease of 157,000 bushels of wheat, 333,000 bushels of oats and 79,000 bushels of rye, with an increase of 121,000 bushels of corn and 404,000 bushels of barley. One year ago the supply was 61,409,000 bushels of wheat, 9,604,000 bushels of corn, 9,393,000 bushels of oats, 1,362,000 bushels of rye and 2,602,000 bushels of barley.

—Eggs are firm for strictly fresh lots. Nearby and Cape fancy are 35 to 37 cents. Northern and Eastern choice fresh 32 to 33 cents, fair to good 28 to 30 cents. Michigan fancy candled 30 cents, Western selected candled 27 to 28 cents. Fair to good 25 to 26 cents, fair candled 24 to 25 cents. Refrigerator eggs, in good demand at 18 to 20 cents, render fancy marks at 21 cents. The stock in cold storage stands at 38,980 cases, against 26,470 cases same time last year. The receipts for the month of December were 2248 cases, against 45,782 cases same month last year. For the year the receipts aggregated 1,041,655 cases, as compared with 986,367 cases the year previous.

—Wednesday, special says President Roosevelt and the new postmaster-general, Henry C. Payne, advocate government ownership of telegraph lines. The legislation will be had this session. An issue of \$200,000,000 Postal and Telegraph funds is suggested, whereby the Postal and Western Union companies may be taken over.

—Senator Mason, chairman of the Senate committee on postoffices and post roads, declares in favor of the general proposition of Government ownership in telegraph lines. He says he has not drafted any bill, but believes that the telegraph should be a part of the postal system of the country, as the purpose of the mails and the telegraph is identical. Postmaster-General Payne is said to favor making the telegraphs an adjunct of the postal service.

JAMES BROTHERS, PUBLISHERS, BOSTON.

THE ANGORA CAT.

A Superb Edition, Beautifully Illustrated, Telling How to Select, Breed, Train and Manage Them.

Only book on the subject containing the most important information on the Origin, History, Care, Training, Breeding, Proper Food, Breeding and Transportation of the Angora Cat. It contains 120 Different Colors, besides interesting stories of how they can be trained, how to keep them, facts about their diseases, etc. It is a valuable book for all who are interested in the care and training of the Angora Cat.

—The total shipments of boots and shoes from Boston this week ended last week, were 61,213 barrels. The total shipments for the same week last year were 61,213 barrels. The total shipments since the season have been 526,885 barrels for the same time last year. The total shipments this season include 110,214 barrels from Boston, 101,455 barrels from New York, 43,166 barrels from Portland, 122,406 barrels from Montreal, 148,402 barrels from Halifax and 1223 barrels from John, N. B.

Cable dispatch from Liverpool on Dec. 30

MASSACHUSETTS PLOUGHMAN
NEW ENGLAND AND JOURNAL OF AGRICULTURE

BOSTON, MASS., JANUARY 11, 1902.

Are the resolutions taking?

The new year has begun to move.

A happy new term, Governor Crane!

All hail the Great and General Court!

Boston has christened the skates of Christmas and recovered from those of New Year's Eve.

Ha! A Boston woman admits an attempt to cheat the custom house. Here is material for another New York investigation.

The reports do not say whether Dr. Charles L. Kloss is married or single. We await the information with impatience.

The rain doesn't consider the snow beautiful, judging from its immediate endeavor to wash it up.

The automobile even overturns young and beautiful actresses. We have believed all along that the machine is equally lacking in taste and courtesy.

We learn with grief that the Old Sleuth Library can no longer go through the mails at the pound rate. However, Sleuth was always clever at disguise.

Sympathy must occasionally draw the line, and even the tender years of the culprits is no excuse for continued petty thievery at the South Terminal.

The women of Boston are still being robbed of their diamonds,—even to the extent that we begin to wonder whether being robbed of diamonds isn't becoming a fad.

When Pana, Ill., starts in to exterminate sparrows, the affair is made a social function ending with a banquet. Our own sparrows may well shudder when they hear of the slaughter.

The College Endowment Association of Milwaukee cannot listen to a lecture by Clara Morris. The emancipation of feminine Milwaukee advances with a very tremendous stride.

"Old Man" Harvey is not so old as his title would seem to indicate, or else he would not have permitted even his sense of humor to lead him into picking the pockets of a police captain.

If the good people of Knickerbocker New York could subscribe to the daily papers, the popularity of the temper right here in Boston would make them wonder which city is really inhabited by their descendants.

The friends of Admiral Schley are reported to have turned their efforts toward a retirement on full pay, possibly as a sort of indemnity for the injury that they have already done his reputation.

Professor Atwater still stands to his botte, and it is as difficult as ever to see where in lies the total abstainers' excited notion that an acknowledged food value in alcohol must necessarily increase the attractiveness of drink.

Bishop Potter is probably no more surprised than many other people at the immediate results of his expressed opinion concerning the practical working of a certain proportion of the very good intentions of temperance agitators.

Whoever has seen the Rev. Minot Savage's introduction to "The Enduring and Temporary Elements of Religion" must admit that it is in harmony with the title. It covers the subject with something like ten semicolons, one period, and uncounted commas.

No: we do not anticipate the actual adoption of a dinner coat to cover the arms and shoulders of the fair at formal dinners. Draughts may come and draughts may go, but the *decoupage* gown was not invented for the purpose of being supplemented with auxiliary sleeves and collars.

It would certainly do America no harm to become actually familiar with the French drama, but we are strongly of the opinion that the proposed experiment in Gotham would do well to start with a comparatively small auditorium. It is much more healthful for such experiments to grow than to shrink.

Bradstreet says that complete statistics of the production of dried beans are not to be had, but in 1900 Michigan probably led the list of States with 1,558,833 bushels, and New York took second place with 1,111,150 bushels. California had 691,143 bushels, and Wisconsin in 1895 produced 950,000 bushels. Probably these figures would be largely increased by smaller amounts grown in other States, but those four are the leading producers of them for market. It is said that in no year but 1897 has the production equaled the home demand. We formerly used to import largely from Canada, but in 1900 nearly one-half of our imports were from Austria-Hungary, and one-fifth from Austria. To offset this we export some to the West India Islands and Central America, and Cuba has been a good customer for a few years. The exports and imports are partly influenced by the condition of crops here, and partly due to an exchange of varieties, selling such abroad as are not in demand at home, and buying such as other countries produce.

What would people have thought fifty years ago had they been asked to a Christmas dinner, at which was to be served not only the usual turkey or goose with cranberry sauce and the regulation pudding, but sliced tomatoes and cucumbers, with a dessert of pears, grapes, oranges and strawberries, all native grown? We cannot imagine, but one need not be a millionaire to be able to indulge in all these now, though they might seem extravagant to the poor man. And if they had wanted a course of fish, they would not have expected salmon from Oregon or pompano from Florida. They would not have used California raisins in their pudding, nor made it from flour that was, perhaps, made from wheat grown in Nebraska or Manitoba, or sweetened their pudding from beet sugar made in this country. Perhaps they were as well pleased with what they had then, and the simple dessert of apples and good cider, but they could not boast that all was the product of the United States, as they might now, and lack none of the luxuries that the rich enjoy.

The Rhode Island Experiment Station has been testing the several varieties of celery that have had best sale in that section, including Sandringham or Imperiale Dwarf, Boston Market, Golden Heart, White Plume, Rose, Paris Golden and Giant Paschal. The White Plume, Paris Golden and Paschal are most grown for Providence market, but Paris Golden is preferred, because it has not a strong bitter flavor that is sometimes found in the White Plume, but it is more frequently subject to what is known as the black heart disease. The Giant Paschal has preference as a winter variety, because it is one of the largest varieties grown. We have tried the above named, excepting the Sandringham, and agree with their decision, but would say that on dry soil where it would not grow too rank the Rose gives the best flavored celery we ever ate, but by the side of the Paschal on land fitted for the latter, it grows coarse and stringy with a hollow stalk. The Boston Market is the best flavored celery next to the Rose, but it does not yield as well as the Paschal, and it is not easy to obtain the pure seed.

Concerning Equality.

Those of us who read Judge Robert Grant's clever and stimulating novel, "Unleavened Bread," remember that one of the best passages in the story is that in which Flossie, the wife of the New York broker, writes with eloquence and keen womanly satire to Selma Littleton's assertion that classes and denials of perfect equality are "un-American." And some of us who have been privileged to hear Judge Grant's own reading of this passage will remember it always as one of the most powerful in the whole book. For he, of course, holds with Flossie that there are and must always be classes and distinctions even in our democratic America.

The truth is that in our insistence in this country upon the ideal of democracy we have allowed the real facts to be obscured. It is obvious, as the bright woman in the book asserted: "All people are not equal. Ignorance is not equal to culture. Incompetence is not equal to capacity. Social station is not made by protesting that one has it, and happiness can be found only by modestly accepting the reality of social grades."

To be any real thing is better than to be an imitation. Sincerity is the foundation of character, and character determines quality.

This is not, of course, to deny the beauty of Thomas Jefferson's noble sentiment embodied in our Constitution, "that all men are created equal." But contestants in a race do not all make the same progress because all have not had the same start. And though one may be disposed to grant Jefferson's self-evident truth, the epithet "beautiful," regarded as a piece of rhetoric, can scarcely be said to stand the test of observation in a land where the child of the slums is often ground down all his life by the offspring of a millionaire.

There has been a year when Maine supplied this market with upwards of 30,000 sheep per annum, when New Hampshire supplied us with 29,000 per annum, and for quite a number of years prior to 1896 the supply of sheep from Vermont ranged from 61,000 to 75,000. In 1892 and 1893 northern New York sent us upwards of 10,000 sheep each year. In 1895 the West shipped us 608,973 sheep, in 1894 500,134 sheep.

More cattle are received over the Boston Albany Railroad than by any other means of communication, some 87,281 head having arrived over the road during the past year, while the Fitchburg is credited with 51,875, the Lowell with 26,430, the Eastern 11,350, while 4160 head were received on foot or by steamboat.

Of the sheep 234,406 head came in over the Fitchburg Railroad, 81,555 over the Lowell Railroad, 68,650 over the Eastern and 46,586 over the Boston & Albany. These proportions of cattle and sheep do not vary much from total shipped by each road during 1900.

The hog business at Boston has assumed large proportions, showing a determination on the part of our pork packers to brace every nerve to keep this commodity at the front. Dealers in cattle have struck out boldly in exports as well as in the home trade, and sheep dealers have had plenty of courage to invest, notwithstanding high prices in the West and the moderate prices in Boston market for dressed stock.

The market for veals has been thrifty, and the season of dull markets seems to be confined to the past. Still, the shipments here are larger than any year for the past ten years in the matter of veal calves. Milk cows have come inquire freely, and yet have commanded good market prices.

There have been large arrivals of horses in this market, shipped mainly from the West largely for home trade. For the better class of horses there has been a constant demand, and orders could not be filled as fast as received.

The live stock market of Boston is an important feature in the commerce of the city. From rough estimates the cattle which have been received at our markets in 1901 cost \$14,21,001. Prices have compared favorably with the preceding year, with top prices 61 to 73 cents, dead weight, for cattle, down to 11 to 3 cents, live weight, for the common cattle, including cattle for canning purposes.

Arrivals of sheep show considerable in excess of last year. As the arrivals are largely from the West, the quality of the offerings, for the most part, could be relied upon and prices have been quite reasonable, some of the best lambs selling at a range of \$3.75 per hundred pounds, the best sheep at \$4.25 per hundred pounds. Estimated cost of the year's receipts \$1,894,824.

In the item of hogs 128,637 more have been received this year than in 1900, and dealers expressed themselves satisfied, all things considered, with the year's business. Present prices on Western hogs range from 62 to 68 cents per hundred, live weight, laid down here. The money value on the year's supply of hogs in this market aggregates \$18,140,083.

The trade in veal calves showed but little variation in prices during the year. Good selling veals are now 51 to 63 cents per pound. Estimated value of all arrivals of veals for the year \$387,365.

It has been a good season for the sale of horses, and the business has exceeded that of last year, with total arrivals 25,792 head, against 23,279 arrivals in 1900. If the arrivals have averaged \$125 a head, the year's business, not including nearby horses, would aggregate a value of \$3,224,000.

BOSTON CATTLE MARKET FOR 1901.

The following statement of the live stock received at Brighton and Watertown markets for the year 1901 is a matter of interest to our readers. Receipts for 1901 aggregated 181,006 cattle, 451,026 sheep, 97,473 veals, 1,395,391 hogs and 6109 pigs.

This shows an increase in every item as compared with the year 1900, when the receipts were 177,951 cattle, 387,424 sheep, 93,210 veals, 1,266,754 fat hogs, 5488 pigs. The year 1899 showed more cattle and hogs, less sheep and veals.

The receipts of cattle during 1901 have only been exceeded in four years, out of the past ten. The number of sheep received in

1901 is greater than the number received in 1900 or 1899, but is far less than the number received in previous years.

The number of veals received in Boston market during 1901 is greater than the number received in any year during the last thirteen years. The number of fat hogs received in 1901 has only been exceeded in Boston market during six of the previous years.

It is interesting to note the number of cattle and sheep from each of the New England States, northern New York, Canada and the West. In the matter of cattle, of course the West is far ahead of any other source of supply, furnishing 113,239 of the total, while Canada sends 19,639 cattle, Massachusetts furnishes 14,401, more than any other New England State, Vermont 12,966, New Hampshire 9,953, Maine 9,926, New York State 776, Rhode Island and Connecticut 190. During the last few years Massachusetts has furnished more cattle than any of the other New England States. Maine used to be our largest source of supply in the New England States, but recently New Hampshire and Vermont have gained on Maine. Not before in ten years has Canada supplied us with so many cattle as the past year. At no time within ten years has the West furnished us so few cattle as during 1901. Thus, in 1896 the West furnished us 189,211 cattle, and in 1897 180,878 cattle.

The receipts of cattle are quite evenly distributed, although the quarter ending Dec. 25 shows the largest receipts. Next comes the quarter ending June 26. The bulk of the Canadian cattle were received during the quarter ending Dec. 25, while the receipts from the New England States were quite equally distributed throughout the year.

As to the supply of sheep the West furnished us 321,636, Canada 80,024, Vermont 15,126, New Hampshire 11,819, Maine 9,926, Massachusetts 3183, New York 322. These figures show an enormous increase from the West, about 118,000 in excess of last year.

While the receipts from Canada fell off nearly 30,000 head, singularly enough the receipts of sheep from Maine fell off fifty per cent. New Hampshire fell off from 17,582 in 1900, down to 11,819 in 1901, Vermont fell off from 7000 head during last year, and Massachusetts over 1300 head.

By far the largest proportion of the year's receipts of sheep came to Boston during the quarter ending Dec. 25, when over one-third the total amount was received. The receipts of sheep were the lightest for the quarter ending June 26. The receipts from the West were very evenly distributed throughout the year, while three-quarters of the Canadian supply came in the last three months of the year. O'er all the supply of sheep from Vermont came in during the quarter ending Dec. 25.

There have been years when Maine supplied this market with upwards of 30,000 sheep per annum, when New Hampshire supplied us with 29,000 per annum, and for quite a number of years prior to 1896 the supply of sheep from Vermont ranged from 61,000 to 75,000. In 1892 and 1893 northern New York sent us upwards of 10,000 sheep each year. In 1895 the West shipped us 608,973 sheep, in 1894 500,134 sheep.

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the load. We have burrowed in the dirt and thrown up a bullet-proof shelter in front of us pretty rapidly by loosening the earth with the bayonet in one hand, and throwing it out with a plate, made by heating an old canteen until the sides came apart, in the other hand. But we agree with him that volunteers with a little drill and a few day's service can make better soldiers than the regulars, because they retain something of their individuality. They can and will do a little thinking for themselves, and regard a safe position and a chance to shoot without being shot as more important than keeping a straight line and touching elbows. From the days of General Braddock's defeat, when Colonel Washington's militia saved the remnants of his troops, down to the last fight in the Boer war, the British army have learned but little of this lesson. "A solid column and close up the gaps" has made them always a target to be shot at, rather than a force to be shot. Bravery should be accompanied by prudence.

Leslie's Weekly calls attention to the fact that forty per cent. of the people of the United States are farmers, or living upon farms, and they not only produce enough to feed and clothe themselves and the other sixty per cent. of the inhabitants, but send about \$1,000,000,000 worth of their products to other countries. And while many crops were small last fall, the rise in value was such that they received about as much for them, or perhaps more in years past.

The great diversity of crops or agricultural products helps to make the country self-sustaining. Germany will suffer if the beet crop fails. Russia has a famine when they do not produce wheat and rye enough, and often if they do, because they cannot obtain transportation cheaply from one section to another. Australia is largely dependent upon the price of wool, and nearly all other countries have a leading product upon which they must depend, and to lose which means a disaster to the whole country. But the United States produces nearly one-half of the agricultural products of the world, and her surplus after supplying our own inhabitants is much more than the surplus of all other countries, although we are but

The Markets.

BOSTON LIVE STOCK MARKETS.

ARRIVALS OF LIVE STOCK AT WATERTOWN AND BRIGHTON.

For the week ending Jan. 8, 1902.

Shotes

and

cattle Sheep Suckers Fat Hogs Veal

The stock 2711 12,159 60 22,888 1167

Lamb 355 64 22,403 1329

Prices on Northern Cattle.

Per hundred pounds on total weight of hot, hollow and meat, extra, \$6.00@6.75; first quality, \$4.00@4.50; a few choice single pairs, \$7.00@7.50; some of the poorest, bulls, etc., \$3.00@3.50; Western steers, 4@4.50.

YOUNG CALVES—Fair quality, \$1.00@1.25; young cattle for fatners: Yearlings, \$1.20@1.50; two-year-olds, \$1.40@1.60; three-year-olds, \$1.60@1.80.

Per pound, live weight, 2@3¢; extra, 2.5@3¢; sheep and lambs per head, in lots, \$2.50@3.50¢; lambs, 31¢@3¢.

Hogs—Per hundred, 6@8¢; live weight, wholesale—; retail, \$2.25@2.50; country hogs, 72¢.

CALVES—3@7¢ p. lb.; country lots, 6¢.

Pork—Brighton—4@7¢ p. lb.; country lots, 6¢.

SKINS—60¢@81.35; dairy skins, 40¢@60¢; hams—Brighton, 4@5¢ p. lb.; country lots, 2¢.

Lamb—\$3.50@50¢.

Cattle Sheep Hogs Veal Horses

Watertown 1452 10,849 3,640 591 175

Boston ... 1259 1,310 19,248 576 100

Cattle, Sheep.

Our Homes.

Turning a Leaf.

One year ago it was a new volume which we opened, the beginning of a century, and as we scanned its spotless pages we realized, —somewhat vaguely, it is true,—that but few then living would be able to make the record complete. It is, however, rather our good than ill fortune that we are so obliged to fill out a full hundred of years. Few could do so without encountering a series of physical and other ill which would be neither alluring nor inspiring.

It is with the units that we are concerned, a day at a time, a week, a month, a year. The last-named has ever seemed an exceptionally favorable space of time for accomplishment. An especial impetus to achievement comes with the New Year. One seems to have unusual energy at that time to throw off the old and take up the new.

Have we made mistakes during the past year? We will begin anew, profiting by past experience. Have we been inspired to undertake some new line of work? The New Year will witness our first efforts. Much good-natured railraiy has been indulged in at the expense of those who at the beginning of a new year break off old habits, only to renew them again when the glamor of the season has been lost in the every-day routine of affairs. Yet the arousing of conscience may not have been entirely in vain, and repeated trials may work the desired reform.

What infinite possibilities there are in a single year. Looking over the past one, the first of the century, we see a record of progress, and as we turn close to the heart of current events and note the "signs of the times," we are conscious of a powerful throbbing earnestness which augurs well for future accomplishment.

The present is in many ways a period of unrest. Great problems are presenting themselves for solution, and wonderful inventions and discoveries come thick and fast, necessitating new methods and new modes of living. One must be constantly alert if he would not be left behind in the race.

In the home, as elsewhere, changes are in order. The broader life of the women of today necessitates a reform in ancient methods of domestic work, if the house-keeper would be a successful home-maker and agreeable companion as well. If there are yet some who are drudging along under the mistaken idea that one must be a slave to mere things, that all else must be sacrificed to the Moloch of housework, making the home a place of durance rather than the dearest spot on earth, there is no better time for an awakening, for bashing the family bugbear, than the New Year.

Each year we are brought more and more to the realization of the rapid flight of time. The ancient scythe-beaten is inexorable in his demands upon us. Now is the time to do that which is clamoring to be done. The new leaf awaits our turning. There may never be another New Year for us. But that really is of little consequence. What is of deepest import is that we are here now, that a new opportunity awaits us, that now is the time to realize something of what in our inner consciousness is clamoring for achievement.

Action is the law of nature. Sometime, it is true, we must drop out by the wayside, but ere that time comes let us fill the leaves allotted to us on this plane of life with a record which shall show that we have not lived here in vain. Imbued with a determination to accomplish something worth while, if only the breaking away from a useless habit, the impetus thus given should make for each and all a Happy New Year.

ELIZABETH ROBBINS BERRY.

The Workbox.

KNITTED RUFFLE LACE.

Cast on 26 stitches; knit across plain once. 1st row—Slip 1, 3 plain, make 2 and seam 2 together, 2 plain, seam 1, 3 plain, make 2 and seam 2 together, 3 plain (make 2 and narrow) 4 times, make 2, 1 plain.

2d row—Slip 1, 14 plain, make 2 and seam 2 together, 6 plain, make 2, seam 2 together, 2 plain.

3d row—Slip 1, 3 plain, make 2 and seam 2 together, 6 plain, make 2 and seam 2 together, 2 plain.

4th row—Slip 1, 15 plain, make 2, seam 2 together, 6 plain, make 2, seam 2 together, 2 plain.

5th row—Slip 1, 3 plain, make 2, seam 2 together, 6 plain, make 2, seam 2 together, 9 plain (make 2 and narrow) twice, make 2, 1 plain.

6th row—Slip 1, 14 plain, turn, 15 plain.

7th row—Bind off 3, 13 plain, make 2, seam 2 together, narrow, make 2, narrow, 2 plain, make 2, seam 2 together, 2 plain.

EVA M. NILES.

Note—Where the make two is in one row on going back, knit only the one stitch of the over two, dropping the other half right off, thus producing a larger hole.

The Knot in the Coffle.

The coiffure of the fashionable woman is a changeable fancy in these days, varied according to the requirements of the occasion and the style of costume with which it is worn.

The knot low at the nape of the neck is especially for full evening dress, and two or three curly are sometimes added. And again you see the knot a little higher on the head, and the front hair covering the ears in the genuine Cleo de Merode style.

The arrangement of the front hair is to a great degree a matter of becoming effect. It is parted in the centre, at one side or not at all, just as you fancy, and it is simply waved, not curled, or, what is better still, there is no wave at all.

The centre parting is very modish in Paris, with the low knot, and either one or two roses arranged just back of the left ear.

Fancy combs are still worn, but not so generally with the hair dressed low or so many of them.

A decided all around pompadour roll is quite out of style, and a more careless irregular line around the face is affected, sometimes drooping a little at one side or in the centre, or turning up a little in the centre and curving down a trifle at both sides.

Hair ornaments for evening wear are shown in a great variety of lace and ribbon bows, tulle and spangled alabates, but if the low style of coiffure prevails the elaborate hair ornaments will not be so generally worn.

A small fancy comb, with jeweled points rising a little above the hair, is pretty on the top of the head, well toward the front.

When to Wind Your Watch.

"My watch had developed a most annoying irregularity," remarked a very businesslike woman. "It lost and gained time by turns until I conceived the disagreeable impression of having paid a first-class price for a third-class article. Full of resentment, I posted off to the dealer in chrono-

nometers from whom the watch had been purchased, and accused him of having treated me unfairly.

"He opened my timepiece," she continued, "and having examined its internal economy very closely, remarked: 'It's simply a case of unconscious cruelty to a faithful but sensitive friend.' These little workers that tirelessly tick along, even when their owners are asleep, are worthy of far better treatment than that they receive. Fully ninety-nine per cent of the people who carry watches never give them a thought.

Take, for instance, the simple process of winding a watch. There is a right and a wrong way of doing it. Whether it be by key or a stem, it should be wound in the morning. Turn slowly and avoid all jerky movements. The watch will then work best during the day, as the spring will exert its strongest traction power, whereby by your daily works and walks are fairly counterbalanced. When a watch is wound at night it has only the weakened spring to offer as resistance to the jerks and jolts of the daytime. The morning winding also lessens the danger of 'breaking the main spring,' which, being no longer at full tension at night, can stand the cold better.

"All watches keep better time as the result of regular habits. Don't lay it down one night and hang it up the next. Keep it in the same position as nearly as circumstances will permit. In second-class watches the rate difference between the horizontal and vertical position is often quite significant. Nor should you hang your watch on a nail where it can swing and fro like a pendulum. It will either gain or lose a great deal while in that position.

"The difference in temperature between your breast or a man's waistcoat pocket and a wall that may be nearly at the freezing point, is about 77° to 88° F.; and a watch should therefore never be suspended or laid against a cold surface. Sudden changes in the temperature of the atmosphere are the causes of most mainsprings breaking.

"The equilibrium of the body must be water. The natural thirst ceases to be felt as thirst, but comes as a general sign of restlessness—the nerves crying for water, instead of food and sleep.

"A certain proportion of our weight should be water. Ascertain from your physician the proper adjustment, then sip the water at intervals between digestion and the hours for repose and the 'drought' habit will disappear—and appendicitis with it,—that is, the tendency to appendicitis.

"The equilibrium of the body must be maintained with proper food, in season. 'To be one-sided,' in anything a great man has said, 'is to be lopsided.' And we would not be waterlogged!

"It is not every one who can endure the morning bath and the morning exercise. The sick require special care, and we commend them to their physicians and nurses; but every one who would live must awaken, and if water in the night will help a sleep, water in the morning will also help us awaken—fresh and bright—and prepare the digestive tract for its work.

"Ice water, however, is not to be considered. To put our living stomachs in cold storage is slow suicide, and a crime against health and common sense."—New York Tribune.

How to Preserve Good Hearing.

You want to be able to hear well, even if you live to be ninety or one hundred? Then keep the outside ear clean and let the inside alone. Nature has furnished a cleaning apparatus for the ear passages.

Don't tamper with them. The entrance to the auditory canal is guarded by fine hairs that keep out dirt and insects. In the lining membrane of the canal is an oily, yellow wax that is bitter to the taste. On account of this bitter wax, no insect will of its own accord enter the canal. It is only by accident that an insect ever gets in the ear.

The quickest way to get rid of it is to drop a little sweet oil. This will either drown it or frighten it out.

The wax in the ear is absolutely necessary to keep it in a healthy condition. Never try to get it out. Always remember that Nature will not let the inner ear become dirty.

Never insert the end of a wet towel or cloth into the ear to try to wash out the wax. Washing the auditory canal with soap and water is also injurious, as in this way the wax is moistened, and more easily collects dust and dirt. It is dangerous—and, if persisted in, surely produces deafness—because people who either snore themselves or are annoyed by snorers. A well-known physician was asked the other day why people snore.

Because they don't shut their mouths," he said.

What is snoring?"

"Well, it's common enough," said he, and in an off-hand fashion he explained that snoring is a noise made in the posterior part of the mouth and nasal fossa during the moments of inspiration.

It is due to a relaxation of the levator palati mullis and the circumflexus palati in sleep, by which the velum pendulum palati is left free to vibrate or flap in the two currents of air which enter at the same time through the nostrils and the mouth. Besides the vibration of the velum pendulum palati, or soft palate, there is also a vibration of the column of air itself. Thus is produced the rasping, snorting noise so well known and so unpleasant to every one within earshot of the plaid snorer.

The doctor was asked what caused snoring.

"When a man is fatigued," he said, "and his self-control is unusually relaxed in sleep, he is apt to let his lower jaw drop down. No man was ever seen or heard to snore with his mouth shut. The moral is obvious.

The soft palate flaps like a sheet in the wind, and the near neighbors of the snoring sleepers are correspondingly disturbed. Now, the Indians never snore. They think it disgraceful.

An Indian believed that if he snored when he is young he will grow up to be even less handsome at maturity than nature originally intended. His vanity, therefore, is enough to make a savage sleep in a proper position."

Another well-known physician up town, whose practice has been largely in cases of affections of the respiratory system, was asked whether snoring is a disease.

"Not so much a disease as a bad habit," he said, "but I am frequently called upon to prescribe for its cure."

"Can it be cured?"

"Easily."

"Why do elderly or corpulent people commonly snore?"

"Because their systems are generally more relaxed in sleep, and their mouths fall open. Any one will be likely to snore if he sleeps with his mouth open, and no one will if he shuts it."

"How can the habit be cured?"

"First, you must give a person a chance to breathe through the nose, and then make him do so. If there is any obstruction in the nasal passage, that must be removed by treatment. Then if a snorer can't keep his mouth shut by force of will, his jaw must be tied up."

A harsh for the lower jaw is sometimes employed in bad cases of snoring. A skull-cap worn upon the head serves to hold a system of straps under the chin and keep the mouth shut until the patient can form a habit of sleeping on his side, or with his

On Drinking Water.

"A noted physician said in my hearing recently," remarked a woman the other day, "that if people drank water at the right time and in the right quantity we doctors would have to go out of business."

"There are so many things which we would do them just right life would be greatly simplified. It is overwhelming to glance over the list of specialists who do not retire because we make our lives so unnecessarily complex."

"First, water should be drunk between meals only. Thirst and hunger are different calls to supply different needs."

"As we chew the moisture necessary to shape our food for swallowing will form. How unreasoning, not to say foolish, to drink food down, washing away the relish which causes the flow of saliva, checking the saliva, without which the food will be deprived of a digestant, and for the time being paralyzing the digestive glands. Nature is gentle in her operations, still clamorous and insistent, except when abused, and when the precious fluids seem not to be wanted the little cells cease the supply."

"If we partake of a small portion of food and chew it slowly, every particle will become a sweet morsel under the tongue, with no need of water to wash it down, and indigestion and dyspepsia will disappear."

"Water is the first requisite in the morning before food. If only we would start our bodies, inside and out, well washed on the way of life, how responsive would we be, even to forced marches!"

"Insomnia is often the result of insufficient water. The natural thirst ceases to be felt as thirst, but comes as a general sign of restlessness—the nerves crying for water, instead of food and sleep."

"A certain proportion of our weight should be water. Ascertain from your physician the proper adjustment, then sip the water at intervals between digestion and the hours for repose and the 'drought' habit will disappear—and appendicitis with it,—that is, the tendency to appendicitis."

"The equilibrium of the body must be maintained with proper food, in season. 'To be one-sided,' in anything a great man has said, 'is to be lopsided.' And we would not be waterlogged!"

"It is not every one who can endure the morning bath and the morning exercise. The sick require special care, and we commend them to their physicians and nurses; but every one who would live must awaken, and if water in the night will help a sleep, water in the morning will also help us awaken—fresh and bright—and prepare the digestive tract for its work."

"Ice water, however, is not to be considered."

"To put our living stomachs in cold storage is slow suicide, and a crime against health and common sense."—New York Tribune.

Glaze for Collars.

A glaze for linen collars may be made by dissolving an ounce of best white gum arabic in a quarter of a pint of boiling soft water. Strain, and bottle for use. Put a small teaspoonful of the gum into a pint of cold water starch made with two ounces of white starch and a tablespoonful of turpentine. Mix, and dip each article in the starch, wring out, and dip into cold water again; wring out, and lay separately on a dry cloth, and cover with another dry cloth, roll up tightly, and leave for two or three hours.

Iron slightly with a box iron on the wrong side and thoroughly on the right side until dry and stiff. Have a well-heated polishing iron, and use it with both hands to give weight and polish, then pass the box iron over the wrong side, giving the corners a curl round, and air before the fire.

How to Preserve Good Hearing.

The snore of the heavy sleeper appears at last to be receiving the consideration from wakeful sufferers that the heinousness of the offence merits.

It may not be popularly known that snoring is merely the vibration of the velum pendulum palati, but it is no less a matter of interest to a great many people who either snore themselves or are annoyed by snorers. A well-known physician was asked the other day why people snore.

Because they don't shut their mouths," he said.

What is snoring?"

"Well, it's common enough," said he, and in an off-hand fashion he explained that snoring is a noise made in the posterior part of the mouth and nasal fossa during the moments of inspiration.

It is due to a relaxation of the levator palati mullis and the circumflexus palati in sleep, by which the velum pendulum palati is left free to vibrate or flap in the two currents of air which enter at the same time through the nostrils and the mouth. Besides the vibration of the velum pendulum palati, or soft palate, there is also a vibration of the column of air itself. Thus is produced the rasping, snorting noise so well known and so unpleasant to every one within earshot of the plaid snorer.

The doctor was asked what caused snoring.

"When a man is fatigued," he said, "and his self-control is unusually relaxed in sleep, he is apt to let his lower jaw drop down. No man was ever seen or heard to snore with his mouth shut. The moral is obvious.

The soft palate flaps like a sheet in the wind, and the near neighbors of the snoring sleepers are correspondingly disturbed. Now, the Indians never snore. They think it disgraceful.

An Indian believed that if he snored when he is young he will grow up to be even less handsome at maturity than nature originally intended. His vanity, therefore, is enough to make a savage sleep in a proper position."

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"How can the habit be cured?"

"First, you must give a person a chance to breathe through the nose,



Using medicines to stop pain, we should avoid such as inflict injury on the system. Opium, Morphine, Chloroform, Ether, Cocaine and Chloral stop pain by destroying the use of perception, the patient losing the power of feeling. This is a most destructive practice; it masks the symptoms, shuts up pain, instead of removing trouble, breaks down the stomach, liver and bowels, and, if continued for a length of time, kills the patient and produces local or general paralysis.

There is no necessity for using these unscientific agents when a positive remedy, like RAYWAY'S READY RELIEF will stop the most excruciating pain quicker, without endangering the least danger, in either infant or adult.

Instantly stops the most excruciating pain, relieves inflammation and cures congestions, whether of the Lungs, Stomach, Bowels, or other glands or mucous membranes.

STOPS PAIN

5 cents per bottle. Sold by all druggists.

Poetry.

HEART OF LOVE.

Oh, who is he, to whom—sometimes—
Somewhere—shuld surely come
The fullness of reward sublime,
When earth was silent, dumb?

To whom, for unrequited good
On earth, shall surely be—
At last—return in plenitude;
Oh, who is he?—Tis he—

Who walks the common ways of earth
With heart of love for others;
And does the deed of lowly worth,
And calls all men his brothers?—

Who thinks not of reward, but keeps
On each day bravely doing;
Who, when he wears, sweetly sleeps;
Then wakes to fresh pursuing;

Who counts his duty pleasure, yea,
It burdens fall so lightly;
On whom, in love, the sun by day
Looks down, and love stars lightly;

Who, to his nobler self is true
In spirit, and in letter;

Who does as well as prays to do,
And seeks to make men better.

GEORGE NEWELL LOVEJOY.

Geneseo, N. Y.

THE SNOWDRIFT.

When night dropped down, the fields were dark
And dim.

Storm sprites were out—we heard the north
Wind blow;

Then when arose the slowly wading sun,
Morning came mantled in a robe of snow.

White grew the landscape; every field and knoll
Shone forth transfigured by the snowstorm's
spell;

The trees and fences stood in motley droll
Half dark, half whitened by this miracle.

But where the stone wall held its Parian weight
Of snowdrift, like some Alp or Appennine,

We saw a sculptor man could not create,
Smoothed off and chiseled by some touch
divine.

White wonder at the myriad-moulted snow,
Pure as the stars that sentinel the sky;

What art could improvise and fashion so,
Unless some god-like power sped procreant by?

—Joel Benton, in *Country Life in America*.

DAWN.

Dawn, let your shining wings
All, let your heart desires

Open your dimness of cloudy wings
Into spreading golden fires,

And bring me my heart's desires.

Lawn, let your shining wings
Light on her golden head;

Tell her Love offers her sweetest things

Then can be sung or said

As crown for her golden head.

—GEORGE NEWELL LOVEJOY.

TOMORROW IS CHRISTMAS MORNING.

Old Santa Claus from his long winter nap,
Put on his fur overcoat, muffler and cap,

Then ordered his reindeer and harnessed the
sleigh;

For I must be up and off and away,

Tomorrow is Christmas morning.

At a wave of his hand the Dollies all come,

Both little and big ones, they walk and they run,

Dressed up in fine muslins, silks, velvets and
lace;

With Merriment dancing on each pretty face;

For tomorrow is Christmas morning.

He blew on his horn for his Troopers so bold,

A myriad of them in numbers untold,

All mounted and booted in trappings so gay,

The Rocking Horse Troopers all leading the way.

For tomorrow is Christmas morning.

At a wave of his hand the Dollies all come,

Both little and big ones, they walk and they run,

Dressed up in fine muslins, silks, velvets and
lace;

With Merriment dancing on each pretty face;

For tomorrow is Christmas morning.

—Gabrielle Stewart.

CONTRASTS IN RHYME.

As sweet as a nut, as sweet as a nut,
As full as an onion, as full as a nut;

As red as a berry, as red as a nut;
As white as a lily, as white as a nut;

As black as a dog, as black as a nut;

As green as a turkey, as green as a nut;

As blue as a judge, as blue as a nut;

As red as a cloth, as red as a nut;

As white as a sackcloth, as white as a nut;

As black as a mope, as black as a nut;

As blue as a flounder, as blue as a nut;

As red as an orange, as red as a nut;

As white as a lily, as white as a nut;

As black as a hat, as black as a nut;

As white as a hat, as white as a nut;

As black as old nutmeg, as black as a nut;

As red as foot's wit, as deep as a nut;

As white as a pearl, as white as a nut;

As red as winter, as white as a nut;

As white as a snowflake, as white as a nut;

As black as silk velvet, as white as a nut;

As white as verjuice, as white as a nut;

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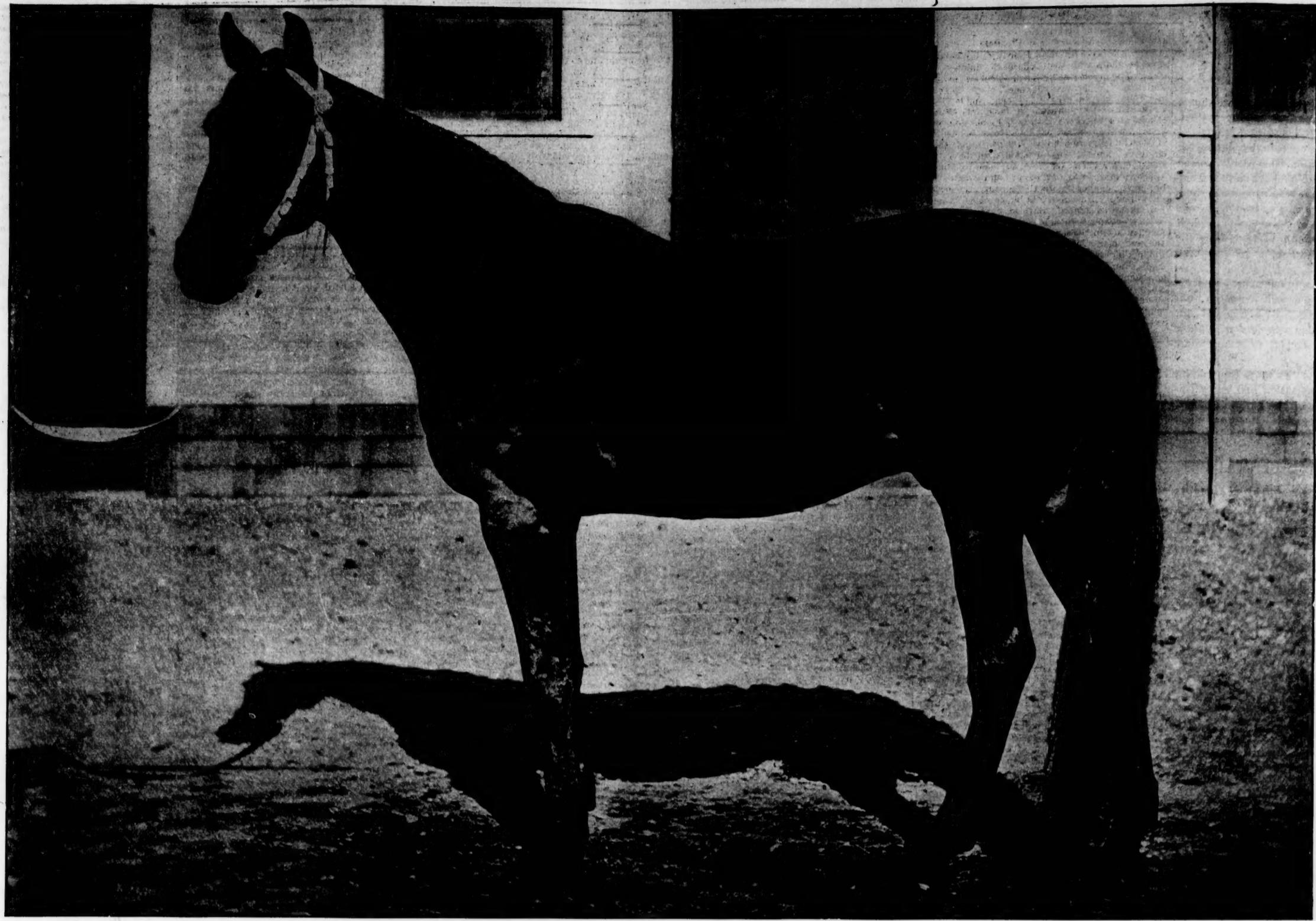
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As black as a nutmeg,



AMERICAN HORSE BREEDER,

The Horse.

Kindly print the following items, which may be of interest to your readers:

Beginning Jan. 1, Grant Page, my present trainer, will be superintendent of the trotting department of my farm, Dreamwold, and Thomas Marsh will be head trainer.

My entire trotting stable, now numbering about one hundred head, will be gathered at Dover, where they will remain until April, when they will be moved to the farm.

What I said the other day in regard to not campaigning my stable next year seems to have been misunderstood by the horse journals, who make it read as though none of my horses would ever again be seen at the races. This is not the idea that I intended to convey, but simply that my racing stable was not to "go the Grand Circuit" next season. I expect to "try out" now and then during the season those horses which in my opinion should be "marked," and perhaps one or two that have already been "marked," such as Oxford Boy or Boralma.

Take, for instance, Boralma. If there is any one who has an idea at the present time he owns a horse the equal of Boralma, and thinks so strongly enough to make a match now for anything from \$5000 to \$20,000, best three in five, twenty-five per cent, forfeit to be deposited now, twenty-five per cent, June 1, and the balance the night before the race, Lord Derby, The Abbot or Crescens preferred, let him speak up, and if his voice sounds pleasant, I think we can come to an interesting agreement; or better still, if the owners of Crescens, Lord Derby, and The Abbot will get together, I will race one at Hartford for \$5000 a side, one at Readville for the same amount, and the third one at Lexington for the same amount, and if the three combine I can win a majority of the three races I to pay them \$10,000; if not, they to pay me \$10,000, one-half of the gate receipts of each of the three races to go to local charities to be named by the winner or the track association.

It is true, as has been published, I have tried to buy Daredevil from the Messrs. Hamlin for \$25,000, and they will not part with him. If another \$5000 would bring him I would pay it; yes, I will pay today just \$30,000 for him.

One other thing: During the past two years, whenever a horse journal was discussing show, high-stepping stallions, they have delighted in describing my Glorious Red Cloud as over twenty years old when he took the championship two years ago. Glorious Red Cloud was foaled on April 24, 1890, and will be this coming April twelve years old. The sire of his dam, Red Cloud Sr., now standing in Kentucky, is twenty this year, and Glorious Red Cloud's sire, The King, now standing in Kentucky, is eighteen this year. Both Red Cloud Sr. and The King are out of the same dam, Belle, a noted Kentucky mare, Red Cloud, by Harrison Chief, and The King, by Indian Chief. Believe me, Yours truly,

THOMAS W. LAWSON.

Northern New York Horse Interests.
The following clipping from the St. Lawrence Plain Dealer may be of interest to your numerous readers in St. Lawrence County, N. Y.

J. R. Hooper, who has been trainer for the St. Lawrence Stock Farm at Canton for the last seven years, has started on his own hook as a public trainer and opened a training stable in Canton "Jud," as he is commonly known among the horsemen of northern New York, has won for himself the reputation of being a careful, reliable and successful trainer and handler of horses now. "Jud" is a young man in years, having commenced at his chosen vocation when in his teens and worked from the bottom up, still he has given records to some of the best horses in this section.

Among those he has given records may be mentioned Morley King (2.16), pacing, Mabel Vaughn (2.21), pacing, the trotters, Lora J. (2.17), Vera (2.18), Bonnie Sue (2.21), Larrie Russ (2.23),

Bennie G. (2.22), Princewood (2.24), and he also drove Ben (2.19) to the record of 2.21, and after Jessie Sheridan took her record of 2.21 he drove her to equal her former record.

Asker a three-year-old pacing record of 2.24 which is the champion record for any three-year-old pacer ever foaled in St. Lawrence County, and the colts he has handled have won more Canton Futility money than have colts driven by any other one driver.

A great deal of "Jud's" success is largely owing to his steady and steady attention to his particular line of business, which goes a long way towards making any one successful in the different walks of life. "Jud" is starting off well. He has at present in his stable Ezeza (2.17), trotter, by Regal Wilkes, Nellie D. (2.18), by Ashby V. 24257, a green trotter called Mark, by Alfred G., the sire of Charley Herr (2.07), Nellie King, sired by Kingly, son of Mambino King. These horses are owned by Mr. E. Lauson, Montreal, Canada, and will be raced in this section next season.

Bartis, Guy, by Kingly, a gelding, Miss Aley, chestnut mare, by Alcyoneum, Ned Wilkes, bay gelding, by Apollo Wilkes, J. E. Pointer, chestnut colt by Sidney Pointer, Mimes, brown colt, by Sheridan Chimes, and a two-year-old brother to Aley (2.13). "Jud" is certainly worthy of success. What social club or organization is a success with the members not attending its functions. And so it is with the driving association. Fully ninety per cent, not for the association nor do they take any interest.

This brings to my mind the discussion of the dues question, which the board of managers turned down some time ago. At that time there were members who were willing to reorganize the association on another basis, and a friend told me that a small club with fifty members, all interested in the welfare of the club, and with yearly dues, would do more to boom the horse game in this city than a dozen associations such as we have at present. The object of the driving association was to bring about that much-coveted movement. Now I flatter myself that I know a thing or two about the speedway and why we did not get one, but I must reiterate my statement made some time ago, and that is politics should not enter into the matter, for that has killed many a worthy cause.

As for a speedway, I doubt if we could get one in this city for quite a number of years to come, and under the present conditions the city will never grant the horsemen a place to speed. I have heard it stated "let the park commissioners propose to give a road in the Park for speedway, as Reservoir avenue will be spoiled by the electric cars, which, in the spring, will run right through the park." I fully agree with the statement made by the horsemen, that the only way to get a speedway is to build one and own by the horsemen. There are men who stand ready to chip in for the same, and in my mind the sum necessary could be easily raised.

The weather for the past few days has been rather cold, and a continuation of same would mean ice and a probability of ice racing. Last winter a section of one of the lakes at the park was set aside for the horsemen, but a thaw prevented the sport.

I ran into Mr. Moore, horse editor of the Journal, who asked me if I could represent the Narragansett Park Association in the nomination of the stewards of the Grand Circuit at Detroit this month. Mr. Perkins intended to go, but as he is now in the South, where he will remain during the winter, he concluded to send Mr. Moore. As yet the new secretary has not been announced, but there is a feeling that W. W. Dexter will again be seen at the track in connection with the meeting this year. Certainly Dexter is a popular secretary, and one who knows the game from soup to nuts.

William H. Draper, who owned *Alcina* (2.11), which pacer was sold at the recent sale in New York, and missed the fun. I note that quite a number of the regulars whom I have run into stated they visited New York recently. Colonel Goff has retained his son of Wilkes, and says he wishes his son to be the fastest new performer in 1899, is certainly a handsome stallion.

The annual meeting of the driving association

Horse Owners Should Use**GOMBault's**

Caustic Balsam
The Great French Veterinary Remedy.
A SAFE, SPEEDY AND POSITIVE CURE.

Prepared especially for horses by J. E. Gombault, Paris, France, and guaranteed by the Government of France.

SUPERSEDES ALL GAUTERY OR FIRING

Impossible to produce any scar or mischief.

The safest, best Balsam ever used.

The safest, best Balsam ever used.

Guaranteed to remove all scabs, blisters, & sores.

Guaranteed to remove all sc